

# AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.  
SECOND QUARTO SERIES, VOL. VII, No. 19] SATURDAY, MAY 10, 1851. [WHOLE No. 786, VOL. XXIV.

ASSISTANT EDITORS,  
J. T. HODGE, For Mining and Metallurgy.  
GEN. CHAS. T. JAMES, For Manufactures and the  
Mechanic Arts.

## PRINCIPAL CONTENTS.

How shall Money for Railroads be Raised....	289
Terre Haute and Indianapolis Railroad.....	291
Statistics of Great Britain.....	291
Properties of India Rubber.....	291
U. S. Mint.....	292
Dimensions of the Steamer Africa.....	292
Covington and Lexington Railroad.....	292
Cleveland, Norwalk and Toledo Railroad.....	293
Peru and Indianapolis Railroad.....	293
Michigan Central Railroad.....	293
New Haven and New London Railroad.....	294
Kennebec and Portland Railroad.....	294
Erie Canal v. Mississippi River.....	294
Railroad Law.....	294
Accidents on Massachusetts Railroads, 1850.....	295
Rochester and Syracuse Railroad.....	295
Alabama and Tennessee Railroad.....	295
Stock and Money Market.....	296
Lake Shore Railroad.....	297
Cleveland and Pittsburgh Railroad.....	297
European and North American Railroad.....	297
Williamsport and Elmira Railroad.....	298
Anthracite coal in Rhode Island.....	298

American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., 136 NASSAU ST.

Saturday, May 10, 1851.

New Orleans, April, 1851.

TO THE EDITOR OF THE R. R. JOURNAL:

Dear Sir—The public mind of our city is now very much exercised upon the subject of railroads, and a proper spirit is developing itself. The main question now with us is, how shall the money be raised—by taxation, or voluntary subscription?—Our people are divided upon this issue. Knowing the means and opportunities you have of obtaining information, and collecting statistics upon this important subject, I have taken the liberty of addressing you for the purpose of obtaining your co-operation, by furnishing us with such statistical information as may be within your reach. One of our objects is to show the expediency of the city contributing, in its corporate capacity, to these enterprises, by the example of other cities—the increase of trade and general prosperity that will necessarily accrue therefrom. Any facts or suggestions

that you may be able to communicate in aid of our efforts, will confer a favor upon our cause, and upon  
Yours truly,

OFFICE OF THE RAILROAD JOURNAL,  
May, 5th, 1851.

Dear Sir—I am happy to acknowledge the receipt of your favor of the 23d ult., in relation to the railroad movements in New Orleans, which have for their object a more intimate connection of that city with such portions of the surrounding country as have been accustomed to make her their market.

I have long wondered at the apparent apathy of New Orleans upon the subject of railroads, feeling convinced, that without them, the advantage of her position would fail to secure her against the influences of the lines of railroads, which all the Atlantic cities are now throwing out into the Mississippi valley; and I have watched, with much interest, the efforts that have been recently making to engage your people in the prosecution of such works.

Experience has now fully proved the value of railroads as instruments of commerce. Wherever they are constructed, travel and merchandise leave their old channels for those better adapted to their wants. If one city commences their construction, all others within the sphere of its influence, must follow the example, or at once sink in the scale of relative importance. This fact has compelled every Atlantic city of any considerable magnitude, to construct, or commence the construction of lines of railroad to connect itself with portions of the country, upon which it had depended for its business. The condition of the leading towns of New England is a striking proof of this necessity. After having had their trade nearly ruined by the superior enterprise of Boston, which city anticipated all her rivals in the construction of railroads—every considerable New England town was forced into the construction of its appropriate line; and all of them are now gradually recovering the ground they had lost. Wherever there has been an experience in their use, railroads are universally admitted to be the most efficient agents in the creation of wealth that modern science has provided; and since science now so intimately connects itself with every step in our physical progress, no community can neglect, if it wishes to keep pace with its neighbors, all the aid she can furnish in

every department of industry. The necessity of building railroads, imposes heavy burdens; but these are the penalties which every community must pay, if it would reap all the advantages that modern science can secure.

New Orleans will soon have a formidable rival in Mobile, as a market for a large part of the cotton which now goes to the former. The completion of the Mobile and Ohio railroad, traversing the most fertile portions of Mississippi, Tennessee and Kentucky, is now placed beyond a contingency. Savannah and Charleston are now drawing off a large amount of cotton, which formerly went to New Orleans. But the most formidable rival of your city is New York. As soon as the enlargement of the Erie canal is completed, boats of 224 tons burden, will be enabled to pass from this city to Buffalo, and will carry freight for a less sum per mile than the average freight on the Mississippi river. Iron can now be forwarded from New York to Toledo and Detroit, 800 miles, for a sum not much exceeding \$4 per ton, including all charges, and to Cincinnati for seven dollars. With the enlargement, this rate will be materially reduced.—Iron for the Crawfordsville and Wabash railroad has just been forwarded, at a cost of \$6 90 to Lafayette, Indiana, a distance of one thousand miles from this city. The Erie canal is fast becoming the favorite route for forwarding railroad iron for roads in Ohio, Indiana, Illinois, and Wisconsin, and will soon be for Kentucky and Missouri.—From Liverpool the freight to New York is less than to New Orleans. Insurance is lower. So are port charges. New York is healthy at all seasons. So is the northern route. During the season of navigation, the canal is always in good order, and the time necessary to forward to any given point can be calculated to a day. New York being the great monetary and commercial centre of the U. States, it is for this reason, all other things being equal, by far the most convenient port for importation. The route by the canal and the great lakes is identical with the great route of travel between the east and the west; and the merchant can follow, and keep his eye upon his shipments. Every western railroad must have an agent in this city to attend to its financial concerns, who can see to the forwarding of the iron and machinery for a road without additional charge. For these reasons New York is rapidly enlarging the sphere of its in-

## AMERICAN RAILROAD JOURNAL.

291

well expended. Ignorance, which in practical affairs is nothing more than inexperience, can never expend economically. Why did the early efforts of Illinois, in her internal improvement schemes, present such a disastrous result? She voted a plenty, and had an abundance of money, till she lost her credit, by her incompetence in using it. One hundred millions at the time would have done her no more good than the twenty she lost. It would have served to crush her more deeply to the earth. She lacked the requisite experience in its expenditure. The lapse of fifteen years has given her this experience, and she is now successfully proceeding in the work of railroad construction, with as much caution and good sense, and with every prospect of a favorable issue, as the most experienced and successful of her neighbors. This breaking down of a whole State was no accidental affair. It was inevitable. As well might an infant bear the load of a giant, as could she stand up under the load she imposed upon herself. I do not mean to compare the matured growth of New Orleans with the immaturity of Illinois, or to intimate that a similar use of means would produce a similar result. Far otherwise. I have cited the latter as an extreme case. But wherever a like condition of things exists, we must, to a greater or less extent, expect a like issue.

The application of these views is easily made. If New Orleans commences the construction of railroads, let her commence with the means of her citizens, which are abundant. In the outset, let her lay a deep and broad foundation, upon which all her projects can securely rest, based upon the personal interest of every citizen. The moment a man takes stock he puts himself to school. He studies the subject of railroads in every aspect.—He qualifies himself for a director, or he renders himself competent to judge of their fitness. He

pect of an early completion of the road. Three barges of iron are now on their way from New Orleans to Terre Haute, and will soon be received at this place and Madison in quantities to be conveniently placed down, beginning at each end about the same time. All the necessary machinery to put the road in operation, will also soon be received. The road is ready for the superstructure, and we are rejoiced to learn that before frosts of another winter shall come, the slow and dangerous mode of travel from here to Indianapolis, by stage, will be superseded by the steam car.

We understand that the bonds of the company were readily and favorably negotiated; this, no doubt, resulted in part from the high credit the company has attained, by its having been prudently and economically managed.

### Statistics of Great Britain

We are indebted to a friend for a copy of a valuable work that has just been published in London on the Statistics of Great Britain. It furnishes information of a truly interesting character. We proceed to notice a few of its most important statements:—

PROPERTY IN THE SOIL OF THE UNITED KINGDOM.	
Annual rental of the land of Great Britain.....	£45,753,610
Rental of the land in Ireland.....	17,618,886
Value (according to 80 years' purchase) of the land in Great Britain and Ireland.....	1,901,144,730
Poor rates of England and Wales....	5,271,264
Farmers' live stock, dead stock, wages and supplies.....	604,833,730
PRODUCE OF THE SOIL OF THE UNITED KINGDOM.	
Wheat, annual value.....	\$73,059,700
Barley, ".....	30,888,000
Oats, ".....	62,302,000
Potatoes, ".....	51,800,000
Gardens, ".....	31,600,000
Straw, ".....	108,593,463
Turnips, ".....	36,400,000

is estimated at the declared value of that which is exported:—

	Tons.	
Imported, 1847.....	33,317	
Made, 1847.....	1,999,688	
Total for use.....	2,032,925	
	Tons.	
Pig iron exported.....	176,036	
Wrought do., [bar, bolt, &c.].....	373,623	
Hardware and cutlery, do.....	20,615	570,324
Remain for home use.....		1,462,601
Divided thus—		
Wrought and unwrought.....	1,059,608	
Hardware and cutlery, do.....	402,993	1,462,601
	Tons.	
Wrought and unwrought, home use.....	1,059,608 at L. 958=	L. 10,151,544
Hardware and cutlery.....	302,692— 1136	45,780,000
Total home consumption.....		£55,931,544
Total value exported.....	L. 7,607,760	
Of which to British possessions.....	1,236,522	1,236,522
Leaves for foreign parts.....	L. 6,371,238	
British consumption.....		£57,168,066
Add foreign.....		6,371,238
Value iron trade, 1847.....		£63,539,304

### REMARKS.

The whole material is the produce of the British soil and British labor. Besides persons immediately employed in the greater branches of the manufacture 147,554 are employed in mining. 1,323,681



fluence in the Mississippi valley. To show the extent of western trade, I would state that the value of the merchandise that passed over the New York (chiefly the Erie) canals the past season, was nearly \$160,000,000. This amount is rapidly increasing, and with the enlarged canal, the State Engineer, in his recent report, estimates that this amount will be doubled in 5 years! I give this fact to show what your people will have to contend with in New York; and New York is *but one* of your rivals. To understand the extent of your danger is the surest pledge that you will take the proper steps to avert it.

For the reasons stated, it is too late in the day for a city like New Orleans to stop to calculate the extent of the benefit that would flow from the building of railroads. They are essential to her progress. She *must* build them, or retrograde; and she has too much pride to present, in her own case, such an anomaly in our almost universal advance and improvement. Boston, New York, Philadelphia and Baltimore, from the influence of railroads, are having a much more rapid growth than at any former period. New York has just begun to feel the influence of her lines of road, and her increase, including her environs, from 1845 to 1850, was fully 250,000! The increase must be vastly greater for the next five years.

The mode in which money is raised for public works, always exerts an important influence upon the economy of its expenditure. It is well known that money expended by the general government, never accomplishes one-half as much, as the same amount expended by individuals. The reason is obvious. In the former case, those interested in its disbursement, have no interest in the result. In the latter they are directly so. One-half of the money expended by the State of Pennsylvania, upon her public works, would, in private hands, have accomplished twice as much. So with a city.—One of its inhabitants is more directly interested in the proper expenditure of its revenues, than in those of the United States: still, in this case, the portion that he is called to contribute is so small, compared with the aggregate sum, he does not feel the necessity of that rigid accountability, that he would, if he contributed a large portion of the whole. On every hand can we find illustrations of this truth. In prosecuting all public works, therefore, it is a great desideratum, in fact it is almost a necessary condition of success, that those who have the application of the money, should have a large direct and personal interest in the result; with whom failure involves the loss of a considerable portion of their property.

It is, at the same time, equally important, that public credit should furnish a portion of the means necessary for a work by which a community in the aggregate is to be equally benefitted. There can certainly be no more equitable mode of raising money, than to make the burden and the advantage go together. Where private capital is called upon for a large amount, a scarcity of money may be the consequence, because this must be furnished by the community immediately interested. But a public credit, such as would be the debentures of New Orleans, will command the money in any market, and may be made the means of drawing money from abroad. The building of railroads, therefore, by money obtained upon such credits, has a direct tendency, for the time being, to make it plenty, instead of scarce. If we could have the same security, that money raised in this way would be

equally well expended as that raised by private subscriptions, and also that, from the facility of obtaining it, there would be no danger that railroads would multiply beyond the wants of business, there can be no doubt, that the best and cheapest mode of raising the means for our railroads would, in all cases, be by the corporate subscription of cities and towns.

The safe and economical policy, is the *medium* between the two—for individuals to contribute a sufficient sum to make them directly interested in the result, and then for the community in the aggregate to furnish the necessary balance, upon the security of what has already been provided. This course leaves a railroad in private hands, and secures to it all the advantage of private management, with the economy of ample means provided without crippling those of individuals or the community.

The manner in which the means for the Atlantic and St. Lawrence railroad have been provided, affords, perhaps, as good an illustration of a happy combination of public credit and private capital in the prosecution of a great work, as can be found. The whole road is about 275 miles long—that portion in the United States being 150. The construction of this division devolved upon Portland, a city of about 20,000 inhabitants. At the commencement of this work, individual subscriptions were obtained in that city to the extent of \$1,000,000, which were promptly paid and expended. The sum was nearly sufficient to open the road to a paying point. The city then obtained permission to lend its credit to the road for \$1,000,000. This credit readily sold. When the further progress, and the prospects of the road justified it, the city was authorised to pledge its credit for an additional sum of \$500,000, making the whole amount furnished \$2,500,000, and this by a town of only 20,000 people. The amount of cash means required for that portion of the road in the United States, was something over \$4,000,000. Any balance wanting, is to be provided by a sale of the company's bonds. All of this immense sum has in this manner been raised by a small town, without crippling its means, or impairing its credit. The bonds of the city, though only 6 per cents, have remained above par. The road has progressed with wonderful rapidity, and the business of the city has increased with equal ratio. Those having the management of the road, contributed in the outset a very considerable portion of their own property, and the sums paid by them are the pledges for the faithful performance of their duties and trusts. Should the road fail to pay well, they and their associates must bear the loss. They have the double inducement to careful management, not only in the ordinary ambition which every person feels of having the reputation of presenting a good account of his stewardship, but in the pecuniary loss which must follow from the least improvidence, or inattention.

Such are our views as to the manner in which cities in their corporate capacity should be connected with railroads. We believe that they are fully sustained by experience. The economical mode of raising money is upon the credit of the *community*. To expend it economically we must connect this expenditure with a personal interest. We should regard it as a great misfortune, for New Orleans, in the present condition of railroad enterprises there, to vote a large sum to a railroad, before any efforts had been made to obtain a portion of the

money wanted by individual subscriptions. If that city commences the construction of railroads, the projects now before her will soon embrace but a very small number of all she will be called upon to aid. For all such, she cannot expect to furnish, in her public capacity, all the aid required. She must in the end resort to the very course which she now perhaps may decline to follow. But the reasons we have assigned are not the strongest arguments against corporate subscriptions in the outset. If the money is furnished in this manner, each individual, under the pressure of his business engagements, will excuse himself from any personal attention to the subject of its expenditure. He votes the loan, and then says, "I have done all in my power; some body must build the road"—and never enquires into the matter again. The money perhaps goes into the hands of incompetent persons, for it is more likely to get into such than into competent hands. Instead of building the road, for which it was intended, a portion of it is lost. A new loan is demanded, and those who voted the first, become disgusted with the whole subject of railroads, and give to them and their management a sweeping condemnation. They will never afterwards listen to anything relating to these works; the whole system is regarded as a nuisance and a humbug.

On the other hand, what is likely to be the result when railroads are commenced, and prosecuted for a time by private means? Every person who contributes \$1000 has something at stake—something that constantly calls his mind to these subjects. He has put into a work his money; the earnings probably of years of toil; and he is very naturally desirous that what has cost him so much labor shall not be wasted. He keeps a sharp eye upon those who have the spending of it; and if anything, in his estimation, goes wrong, the public is sure to hear from him. The directors of the road are in this manner surrounded by men at every turn, who are watching every step they take; and the knowledge of this fact, goes far towards securing the best management, and the most rigid accountability. Every stockholder constitutes himself a committee of public safety, and thus secures the end he has in view, just as if he were regularly appointed as such. But there is another capital advantage growing out of private subscriptions. A man, as soon as he takes stock, begins to study the subject of the construction of railroads—of their uses—of the relations they bear to business—to the increase of property—of their social influences, etc., etc. The study of this great subject is of the most interesting and improving character. It connects itself with everything that concerns life, with science, with morals, with political relations and economy. It liberalises and improves the mind and prepares a person to meet cheerfully further calls, that are certain in this age of progress to be made upon him. In the end, it not only makes him expert in all matters relating to railroads, but makes him, in everything else, thrice the man he was before. But where no sufficient motive is presented to the mind, to turn it from its accustomed channels, it plods on in the old way; and although a city may vote liberally, all expenditure unconnected with that training of which we have spoken, and which grows directly out of a personal interest, can never be turned to a profitable account.—Means raised this way, are tools without skill, power without intelligence, just as likely to do harm as good. Money expended by accident, is never

well expended. Ignorance, which in practical affairs is nothing more than inexperience, can never expend economically. Why did the early efforts of Illinois, in her internal improvement schemes, present such a disastrous result? She voted a plenty, and had an abundance of money, till she lost her credit, by her incompetence in using it. One hundred millions at the time would have done her no more good than the twenty she lost. It would have served to crush her more deeply to the earth. She lacked the requisite experience in its expenditure. The lapse of fifteen years has given her this experience, and she is now successfully proceeding in the work of railroad construction, with as much caution and good sense, and with every prospect of a favorable issue, as the most experienced and successful of her neighbors. This breaking down of a whole State was no accidental affair. It was inevitable. As well might an infant bear the load of a giant, as could she stand up under the load she imposed upon herself. I do not mean to compare the matured growth of New Orleans with the immaturity of Illinois, or to intimate that a similar use of means would produce a similar result. Far otherwise. I have cited the latter as an extreme case. But wherever a like condition of things exists, we must, to a greater or less extent, expect a like issue.

The application of these views is easily made. If New Orleans commences the construction of railroads, let her commence with the means of her citizens, which are abundant. In the outset, let her lay a deep and broad foundation, upon which all her projects can securely rest, based upon the personal interest of every citizen. The moment a man takes stock he puts himself to school. He studies the subject of railroads in every aspect. He qualifies himself for a director, or he renders himself competent to judge of their fitness. He prepares his own mind for further contributions when such are wanted. A highly enlightened public sentiment is thus created, which directs and controls, without legal enactment, the application of money. Railroad projects, instead of resting upon the vague idea of their importance existing in a community, and dependent for their means upon the fickleness which is the inseparable attendant of ignorance, rest upon an enlightened conviction, which is sure to point out the proper course, and always to supply means corresponding with the result to be obtained. Such is the difference between an enlightened and an unenlightened community, upon every subject that concerns its interests. I urge these views still more strongly, from the fact, that when N. Orleans has once put her hands to the plough, there is no looking back. The expenditure of one million merely lays the foundation for ten more. Boston, with her \$75,000,000 in railroad stocks, is as much occupied as ever with new projects. Her example merely illustrates what is to be the experience of other cities. Such being the fact, how important is it, that a suitable education and training should commence, and keep pace with a similar expenditure.

#### Indiana.

**Terre Haute and Indianapolis Railroad.**—The Terre Haute Express says, the President of the Terre Haute and Richmond railroad company, Chauncey Rose, Esq., returned home on Sunday last, in good health, from the east, where he had been for several months past, on business of the company. His operations have been very successful, and we congratulate our citizens on the pros-

pect of an early completion of the road. Three barges of iron are now on their way from New Orleans to Terre Haute, and will soon be received at this place and Madison in quantities to be conveniently placed down, beginning at each end about the same time. All the necessary machinery to put the road in operation, will also soon be received. The road is ready for the superstructure, and we are rejoiced to learn that before frosts of another winter shall come, the slow and dangerous mode of travel from here to Indianapolis, by stage, will be superseded by the steam car.

We understand that the bonds of the company were readily and favorably negotiated; this, no doubt, resulted in part from the high credit the company has attained, by its having been prudently and economically managed.

#### Statistics of Great Britain

We are indebted to a friend for a copy of a valuable work that has just been published in London on the Statistics of Great Britain. It furnishes information of a truly interesting character. We proceed to notice a few of its most important statements:—

#### PROPERTY IN THE SOIL OF THE UNITED KINGDOM.

Annual rental of the land of Great Britain.....	£45,753,610
Rental of the land in Ireland.....	17,618,886
Value (according to 80 years' purchase) of the land in Great Britain and Ireland.....	1,901,144,730
Poor rates of England and Wales...	5,271,264
Farmers' live stock, dead stock, wages and supplies.....	604,833,730

#### PRODUCE OF THE SOIL OF THE UNITED KINGDOM.

Wheat, annual value.....	\$73,059,700
Barley, ".....	30,888,000
Oats, ".....	62,302,000
Potatoes, ".....	51,800,000
Gardens, ".....	31,600,000
Straw, ".....	108,593,463
Turnips, ".....	36,400,000
Hay, clover, rye, grass, and the meadows.....	78,750,000
Best pasture.....	106,250,000
Tares, chicory, carrots, &c.....	19,800,000
Grazing, second class pasture.....	58,500,000
Natural grazing, rivers, sites, towns, &c.....	7,380,470
Forests, trees, &c.....	16,000,000
Hops, flax and hemp.....	5,500,000
Lime, stone, bricks and clay.....	24,000,000
Iron, coal, lead, tin, copper, salt, &c.....	50,000,060

Grand total of the produce of the soil of the United Kingdom..... £670,524,132

#### INVESTMENT OF CAPITAL.

#### Estimated Capital vested in the following Branches of Business.

Capital vested in land.....	£3,109,778,940
" cultivating do..	604,833,736
"	£3,714,612,670
" cotton trade.....	£45,000,000
" woollen trade....	38,000,000
" linen trade.....	12,000,000
" silk trade.....	12,000,000
" leather trade....	15,000,000
" iron, hardware & cutlery.....	30,000,000
" copper and brass ditto.....	3,700,000
" coal trade.....	18,000,000
" glass, china, &c..	8,000,000
" paper, books, colors, &c.....	10,000,000
" spirits, porter, &c.	37,000,000
	£228,700,000

#### THE IRON TRADE OF THE UNITED KINGDOM.

The value of that which is consumed at home,

is estimated at the declared value of that which is exported:—

Imported, 1847.....	33,317
Made, 1847.....	1,999,688

Total for use..... 2,032,925

Tons.	
Pig iron exported.....	176,036
Wrought do., (bar, bolt, &c.,).....	373,623
Hardware and cutlery, do.....	20,615
	570,324

Remain for home use..... 1,462,601

Divided thus—	
Wrought and unwrought.....	1,059,608
Hardware and cutlery, do.....	402,993
	1,462,601

Tons.	
Wrought and unwrought, home use.....	1,059,608 at L 958=£ 10,151,544
Hardware and cutlery.....	302,692— 1136 45,780,000

Total home consumption..... £55,931,544

Total value exported..... L 7,607,760

Of which to British possessions..... 1,236,522 1,236,522

Leaves for foreign parts..... L 6,371,238

British consumption..... £57,168,066

Add foreign..... 6,371,238

Value iron trade, 1847..... £63,539,304

#### REMARKS.

The whole material is the produce of the British soil and British labor. Besides persons immediately employed in the greater branches of the manufacture [47,554 are employed in mining,] 323,681 individuals in Great Britain engaged in different trades, of which iron is the staple.

The export to the home consumption is only about one-tenth. In 1846 = 147 tons iron were manufactured into 300,000,000 steel pens, which, at the value of one-eighth of a penny each, would amount to £166,950.—*Phil. Inq.*

#### On some Properties Peculiar to Caoutchouc, and their Applications.

Caoutchouc is a vegetable constituent, the produce of several trees; the most prolific in this substance are, *Siphonia Caoutchouc*, *Urceola Elastica*, *Ficus Elastica*, &c.; of these the *Siphonia Caoutchouc* extends over a vast district in Central America, and the caoutchouc obtained from this tree is best adapted for its manufactures. Over more than 10,000 square miles in Assam the *Ficus Elastica* is abundant. The *Urceola Elastica* (which produces the Gintawan of the Malays,) abounds on the islands of the Indian Archipelago. It is described as a creeper of growth so rapid that in five years it extends 200 feet, and is from 20 to 30 inches in girth. The tree can, without being injured, yield by tapping, from 50 to 60 pounds of caoutchouc in one season. A curious contrast is exhibited in the tardy growth of the tree from which the Gutta Percha is obtained. This tree does not come to its prime in less than from 80 to 120 years. The produce cannot be obtained but by the sacrifice of the tree. It is found in a concrete state between the bark and the wood after the tree has been cut down, and it is in this condition that, having been scraped out, it is sent to our market.

When coagulated by evaporation or agitation, caoutchouc separates from the aqueous portion of the sap of the trees which yield it. The solid and fluid cannot afterwards be reunited, any more than butter is capable of mixing with the milk from which it is separated. Caoutchouc is a hydrocarbon. This chemical character belongs to all



varieties of the substance, and many other vegetable constituents, though they differ materially in physical qualities. Some specimens are harder than Gutta Percha itself, while others never solidify, but remain in the condition of bird lime or treacle.

The process termed the *vulcanising* of caoutchouc was discovered by Mr. Thomas Hancock in 1843. A sheet of caoutchouc immersed in melted sulphur absorbs a portion of it, and at the same time it undergoes some important changes in many of its characteristic properties. It is no longer affected by climatic temperature; it is neither hardened by cold, nor softened by any heat which would not destroy it. It ceases to be soluble in the solvents of common caoutchouc, while its elasticity becomes greatly augmented and permanent.

The same effect may be produced by kneading sulphur into caoutchouc by means of powerful rollers; or the common solvents; naphtha and spirit of turpentine, may be charged with a sufficient amount of sulphur in solution to become a compound solvent of rubber. In these cases articles may be made in any required forms before heating for the change of condition. It is necessary, however, for this purpose, that the form should be carefully maintained during the exposure to the heat necessary to effect the vulcanisation which leaves it in a normal state. A vulcanised solid sphere of 2½ inches in diameter, when forced between two rollers ¼ inch apart was found to maintain its form uninjured. In fact, it is the exclusive property of *vulcanised* caoutchouc to be able to retain any form impressed upon it, and to return to that form on the removal of any disturbing force which has been brought to act upon it.

Caoutchouc slightly expands and contracts in different temperatures; it is also capable of being condensed under pressure. A cube of 2½ inches, impactly secured, was subjected to a force of 200 tons. The result was a compression amounting to 1-10th; great heat appeared to have been evolved, and the excessive elasticity of the substance caused a fly-wheel weighing 5 tons to recoil with alarming violence.

The evolution of heat from caoutchouc under condensation is a property possessed by it in common with air and the metals. It differs, however, from the latter in being able to exhibit cold by reaction. Mr. Brockdon stated that he had raised temperature of an ounce of water 2° in about 15 minutes by collecting the heat evolved by the extension of caoutchouc thread: he refers this effect to the change in specific gravity. He contends that this heat thus produced is not due to friction; because the same amount of friction is occasioned in the contraction as in the extension of the substance, and the result of this contraction is to reduce the caoutchouc thus acted upon to its original temperature.

Among the latest applications of the elastic force of caoutchouc—the chief purport of Mr. Brockdon's lecture—attention was directed:

1. To Mr. E. Smith's patent application of tubes of vulcanised caoutchouc as torsion springs to roller blinds—adjusted to the heaviest external blinds of houses, or the most delicate carriage blinds; and equally applicable to clocks and various machines as a motive power.

2. To the raising of weights (Mr. Hodge's patent application.) Short lengths of caoutchouc (termed by him vulcanised power-purchases) are successively drawn down from or lifted to a fixed bearing, and attached to any weight which it is required to raise; when a sufficient number of these power purchases is fixed to the weight, their combined elastic force lifts it from the ground. Thus ten purchases of the elastic strength each of 50 lbs. raise 500 lbs. Each purchase is six inches long and contains about 1½ oz. of vulcanised caoutchouc. These ten purchases, if stretched to their limit of elasticity, not of their cohesive strength, will lift 650 lbs. This power—the accumulation of elastic force—though it obey the common law of mechanical powers, differs enough to be distinguished as a new mechanical power.

The same principle is applicable to relieve boats in tow from the strain they are subject to, and to easing the strain on ships' cables, especially where several boats are towing one vessel.

3. Applied as a projectile force. A number of

power purchases, attached to the barrel of a gun constructed to project harpoons, will exert a power if suddenly relieved proportioned to their aggregate forces.

Similar contrivances have been made for projecting balls 200 yards or more; a charge of No. 4 shot can be thrown 120 yards. On the same principle a bow was contrived in which (reversing the usual form) the string alone was elastic; this bow throws a 30-inch arrow 170 yards.

There were also exhibited adaptations of this material, for restraining furious horses—for slinging horses whose limbs have been broken—for enabling bed-ridden persons to assist themselves, for strengthening feeble joints, and many other new and valuable purposes.—*Herapath's Journal*.

#### U. S. Mint.

The operations of the United States Mint at Philadelphia, during the past month of April were as follows:

GOLD.	
117,744 double eagles, value.....	\$2,354,880
21,179 eagles.....	211,790
88,908 quarter eagles.....	222,270
387,118 gold dollars.....	387,118
614,949 pieces.....	\$3,176,058
SILVER.	
24,000 dimes.....	2,400
COPPER.	
1,333,676 cents.....	13,336 76
1,972,625 pieces.....	\$3,191,794 76
Total gold bullion deposited for coinage from 1st to 30th April, 1851, inclusive:	
From California.....	\$2,785,500
From other sources.....	75,000
	\$2,860,500

Silver bullion deposited in same time.. 18,000

The coinage of three cent pieces has reached to about \$16,000, and is progressing rapidly. By instructions from the department, one half of this coinage is to be reserved for the assistant treasurers and government depositories in distant cities, who will, by exchanges and otherwise, introduce them into circulation. The balance will be paid out at the Mint, in amounts of \$30, \$60 and \$150. The issue will take place on the 8th inst.

#### The British and North American Royal Mail Steam Navigation Company's New Steam Vessel "Africa."

Built by Messrs. Robert Steele & Co., Greenock, 1851. Engines, &c., by Mr. Robert Napier, Glasgow.

	British.		American.	
Old measurement.	Ft.	In.	Ft.	In.
Length aloft.....	267	0	267	0
Ditto, keel and fore rake.....	267	0	267	0
Breadth of beam.....	40	6	40	6
Do. over paddle-boxes.....	63	6	63	6
Depth of hold.....	27	6	20	3
Length of engine-space....	92	3	92	3
Tonnage.	Tons.		Tons.	
Hull.....	2128		2106	
Contents of engine space...	811		800	
Register.....	1316		1305	
New measurement.	Ft.	Tns.	Ft.	Tns.
Length on deck.....	265	2	265	2
Breadth on do., amidship...	37	6	37	6
Depth of hold on ditto.....	27	2	27	2
Length of engine space....	92	3	92	3
Tons.	Tons.		Tons.	
Hull.....	2226		2067	
Contents of engine-space...	1010		1010	
Register.....	1216		1057	

By the loaded act this vessel is 748 tons less than the *Pacific*. A pair of side lever engines of 814 horses nominal power; diameter of cylinder, 96 inches × 9 feet length of stroke; paddle-wheels, diameter extreme, 37 feet 7 1-2 inches, and 36 feet

10 1-2 inches effective; 28 floats, 9 feet 2 inches × 3 feet 2 inches; three sets of 28 arms; 8 floats in water, at a mean draft of 19 feet 3 inches.

Four flue boilers, with return flues at the back of the boiler; length 20 feet; breadth 16 feet; height 12 feet; with a large steam chest; 20 furnaces, 5 in each boiler; length, fire bars, 8 feet; breadth, 2 feet 9 inches; height 7 feet; passage between boilers, 2 feet wide; boiler to bunkers, 7 feet 7 inches; bunkers hold 890 tons of coals; draught of water, (mean,) with engines, boiler, &c., 15 feet; carries 1,842.9 tons of cargo.

#### Kentucky.

*Covington and Lexington Railroad*—The city of Covington is one of the most thriving and promising of any in the west, is separated from Cincinnati by the Ohio river, but connected by numerous steam ferry boats of the first class, as is the city of New York with that of Brooklyn, making, as it were, one city. Its location is exceedingly favorable, being at the junction of the Licking river with the Ohio; and its contiguity with the cities of Cincinnati and Newport, gives it many advantages. Its rapid growth within the last few years is without parallel, as the following statistical report (copied from certified reports in my possession) will show:

1845—Value of real estate in the city was.....	\$1,065,245
Population.....	3,567
Revenue.....	5,500
1846—Value of real estate.....	\$1,420,962
Population.....	4,030
Revenue.....	6,042
1849—Value of real estate.....	\$2,759,837
Population.....	7,014
Revenue.....	17,685
1850—Value of real estate.....	\$4,408,918
Population.....	9,910
Revenue.....	34,000

The entire debt of the city, prior to the issuing of the one hundred thousand dollars, was 25,000 dollars, borrowed in 1830 for a period of 30 years, which will fall due in 1860; she has always paid promptly the interest when due. The real estate owned by the city is worth \$80,000. The above one hundred thousand dollars of bonds were given to the Covington and Lexington railroad company in payment of subscription to their capital stock, by said city holding stock therefor. Although the foregoing shows an uncommonly rapid improvement, yet, with our prospects for the completion of the Covington and Lexington railroad, we consider her improvements but commenced. This road will run from this city, through the counties of Kenton, Pendleton, Harrison, Bourbon and Fayette, to the city of Lexington, (distant about ninety miles), the acknowledged garden spot not only of Kentucky, but America. We have had thirty-four miles under contract, and the work rapidly progressing for several months, and have advertised to let forty miles more on the 5th of May next.—The road is intended to be of the best class, there being no grades that will exceed twenty-one feet to the mile, and no curves short enough to impede the rapid passage of cars. The radius of curvatures on the curved parts of the line, exceeds for the most part 1900 feet.

The road is estimated to cost about \$17,000 per mile, making.....\$1,530,000  
Stock subscribed by individuals.....\$525,000  
The city of Covington, payable in the bonds of the city.....100,000  
Cincinnati bonds, a loan to the company.....100,000  
725,000

In addition to the above, the county of Kenton, has, by authority of an act of the legislature, voted by a majority of 641, for an ad valorem tax on the property of the county of one per cent. per annum, for three years, which will amount, when collected, to about \$220,000. Besides this, the legislature, at its last session, authorised the county of Bourbon to subscribe the sum of \$100,000. Added to the above, will make the sum total of one million two hundred and forty-five thousand dollars, which will ensure the speedy completion of the road. You will see, by casting your eye on the map of Kentucky, that this is a road of vital importance, running as it does from Cincinnati in a direct line to



Lexington, Ky. One important feature of our charter is, that we are at liberty to declare any amount of dividend the road may make, while some companies in the west are limited down to an amount not exceeding fourteen per cent. per annum. And while the roads leading from Cincinnati on the Ohio side of the river have great competition in the various roads now completed and under construction, this road will be without a rival, as it is located in the valley of the Licking river, the only practicable route from Cincinnati to Lexington; and at no very remote period will no doubt become the main thoroughfare for the transportation of the various commodities brought from Charleston, S. C., and Savannah, Ga., which States are already pushing their roads with rapidity, in a course to meet those leading from Lexington, Ky., toward these points; when completed will make a direct railroad communication with Charleston, Savannah and the lakes, by the way of Covington and Cincinnati.

The completion of this road will also make tributary to it, that most fertile and productive region embraced in the counties adjacent to Fayette, Bourbon, Harrison, etc. The five counties through which this road runs, shows an assessed value of taxable property amounting to \$43,880,114.

#### Baltimore and Pennsylvania.

The Baltimore American, in speaking of the lines of railroads now opening into the interior of Pennsylvania, and connecting with that city, says:

The completion of the short railroad link of 25 miles, known as the York and Cumberland railroad, has brought the cities of Baltimore and Harrisburgh within less than five hours' ride of each other, and has in like manner effected a direct connection with the Cumberland Valley railroad, and also with the Pennsylvania railroad. These new connections have existed but a short period, yet they have already afforded evidences of their value, which it is very gratifying to us to refer to.—The trade and travel between Baltimore and Harrisburgh have been largely increased, and exhibit all the indications of a continued steady growth.

The business on the line of railroad from this city to Harrisburgh, now requires the whole force of the road in engines and cars, and were the stock double the present amount, the whole would be actively and profitably employed. The president and directors of the Baltimore and Susquehanna railroad are increasing, as rapidly as possible, facilities for the transportation of produce, and are applying themselves, with their usual diligence and discretion, to promote the various interests concerned to the utmost of their ability. Preparatory explorations and surveys have been made, or are in progress, to connect the road with Westminster from some eligible point, from whence it may be continued farther west, so as to form a more direct communication between Baltimore and the more western counties of Maryland. The proceedings of the company are characterized by great energy and enterprise, and the result is, a most extraordinary advance in the price of the stock.

The Baltimore and Susquehanna railroad was considered, for a long while, a dead burthen upon the State treasury, paying little or no interest on the heavy advances made. Henceforth it will, we feel confident, be able to pay regularly the annual interest upon the whole debt, besides providing additional stock for the road and making repairs and improvements. We congratulate the citizens of Baltimore and of the whole State on this happy result, and think that they may look to this road as a source of enlarged trade and of permanent revenue.

In connection with the above, we copy the following from the York, Penn., Democratic Press:

"The bill incorporating the Susquehanna railroad company, which, when completed, will secure a connection for the York and Cumberland railroad, with the Pennsylvania railroad on the west bank of the Susquehanna river, and with the coal fields of Dauphin and Northumberland counties, passed at the close of the session of the Pennsylvania Legislature, and has been signed by the Governor. This is a most important improvement to this section of Pennsylvania, and to the business interests of the city of Baltimore. It is a link in a chain of improvements that will, at no distant

period, extend to Lake Erie, and will command an immense foreign and local trade. This great project was opposed by Philadelphia, and that portion of our State the citizens of which have been induced to believe that their interests are identical with that city. It was a determined and a decided opposition—so much so that we regard the success of the measure as one of the greatest triumphs ever achieved by the representatives of that section of the State, who invariably find in Philadelphia an antagonist, whenever they ask the privilege of constructing an improvement designed to benefit their own locality, and which will not inure to advantage of our great metropolis.

"We know of no individuals to whom the credit of the success of the railroad and the tax bills can be more freely awarded than to Robt. M. Magraw, Esq., the energetic President of the Baltimore and Susquehanna railroad. He was present at Harrisburgh during the greater part of the session, and while he supplied his friends with the valuable information upon railroad matters, which he always has at command, he gained the respect of the opponents of his measures, by his gentlemanly deportment and kind and social disposition. As a resident of a sister State, whose institutions and customs differ widely from our own, with sectional prejudice against him, he entered the field of his operations and did not leave it until his efforts were rewarded with success, and he had gained hosts of warm friends. We feel confident that in these remarks we are but expressing the views of all who understood Mr. Magraw's operations at Harrisburgh—we repeat what we have heard repeated from many with whom we conversed during the session of the legislature, and since its adjournment. A desire to render 'honor to whom honor is due,' induces us to mention his name in this connection."

#### Sidney Smith on Progress.

It is some importance at what period a man is born. A young man, alive at this period, hardly knows to what improvements of human life he has been introduced; and bring before his notice the following eighteen changes which have taken place in England since I began to breathe the breath of life—a period amounting now to nearly seventy years. Gas was unknown; I groped my way about the streets of London, in all but the utter darkness of a twinkling oil lamp, under the protection of watchmen, in their climacteric, and exposed to every species of insult. I have been nine hours in sailing from Dover to Calais, before the invention of steam. It took me nine hours to go from Taunton to London. In going from Taunton to Bath, I suffered between 10 and 12,000 severe contusions, before stone breaking Macadam was born. I paid £15 in a single year for repairs of carriage springs on the pavement of London; and now I glide, without noise or fracture, on wooden pavements. I can walk, by the assistance of the police, from one end of London to the other, without molestation; or, if tired, get into a cheap cab, instead of those cottages on wheels, which the hackney coaches were at the beginning of my life.

I had no umbrella. They were little used and very dear. There were no water proof hats, and my hat was often reduced by rain to its primitive pulp. I could not keep my small clothes in their proper places, for braces were unknown. If I had the gout, there was no colchicum. If I was bilious, there was no calomel. If I was attacked by the ague, there was quinine. There were filthy coffee houses instead of elegant clubs. Game could not be bought. Quarrels about uncommuted tithes were endless. The corruption of Parliament before reform, infamous. There were no banks to receive the savings of the poor. The poor laws were gradually sapping the vitals of the country. Whatever miseries I suffered, I had no post, for a single penny, to whisk my complaints to the remotest corner of the empire. And yet, in spite of all these privations, I lived on quietly, and am now ashamed that I was not discontented, and utterly surprised that all these changes and inventions did not occur two centuries ago. I forgot to add that as the basket of the stage coaches, in which baggage was then carried, had no springs, your clothes were rubbed to pieces, and that even

in the best society, one-third at least of the genteel, were always drunk.

#### Ohio.

**Huron and Sandusky.**—We are happy to learn that these counties voted on Monday last, in favor of subscription to the Toledo, Norwalk and Cleveland railroad, the first \$60,000, and the latter \$50,000. The majority in each county was about five hundred. The road will at once be put under contract the whole length, and completed we hope before July 1st, 1852. We also learn that work is progressing rapidly between here and Fremont; the contractors will receive their first estimate tomorrow at Fremont.

**The Cincinnati, Wilmington and Zanesville railroad company** will be organized on the 15th of May by the election of officers. It has now about \$1,000,000 subscribed to the capital stock, and engineers for location will be put on at the first meeting of the Directors.

#### Illinois.

**Aurora and Rock Island Railroad.**—We learn from Stephen F. Gale, Esq., who has just returned from New York, that the Illinois Central railroad company have pledged themselves to meet the Aurora road with the Galena branch whenever the former may be extended to the proposed point of intersection. There is no question now but what this work will be pushed forward immediately. One gentleman of this city, of large ability, proffers to take one-tenth of the stock, and others have expressed a readiness to subscribe liberally. Books will very shortly be opened for this purpose, and all the requisite steps taken to secure its earliest possible commencement.—*Chicago Tribune.*

#### Raleigh and Gaston Railroad.

It appears that the efforts to raise the subscription of \$400,000, necessary to secure the charter granted for this road by the late Legislature, are likely to be unsuccessful. About \$50,000 have been subscribed in Raleigh, and \$8,000 in Petersburg, and along the line between Raleigh and Gaston almost nothing. It is announced also by the Petersburg Intelligencer, that unless a movement is made to resuscitate the road, operations on it will be discontinued at the end of a month. It was expected that Norfolk and Petersburg would each come forward and subscribe a hundred thousand dollars; but, through mutual jealousy or for some other reason, neither city seems disposed to bleed so liberally. Without their assistance to this extent, the prospect of resuscitating the road is hopeless.—*Greensboro' (N. C.) Republican.*

#### Indiana.

**Peru and Indianapolis Railroad.**—The 1st section, to Noblesville, opened on the 11th of March. Number of passengers carried on the day of the celebration of the opening of the first 23 miles from Indianapolis,.....2,813  
Passengers from the 12 March to the 4th of April.....1,048

Total.....3,861  
Total receipts in twenty days.....\$1585 50

#### Ohio.

**Akron and Hudson Railroad.**—The engineers have commenced the survey of this road, and the work is to be pushed on rapidly. An instalment of \$5 per share on the stock is ordered to be paid before the 17th of May, and similar amounts each month thereafter.

#### Important Railroad Movement.

We learn from a certain source, that J. W. Brooks, Esq., the efficient superintendent of the Michigan Central railroad, has succeeded in making arrangements for the completion of the line of road from Michigan city to the Illinois line, and thence to Chicago. This has been accomplished without the aid of legislation, and in a manner to render it liable to no contingency nor uncertainty. We congratulate the people of Michigan, therefore, upon the prospect of a swift and speedy communication between Buffalo and Chicago, by the way of Detroit. The iron for the line of road between Michigan City and Chicago, is purchased,



work will be immediately begun upon it, and prosecuted without delay, until it is finished.—*Detroit Adv.*

#### Railroad in California.

The California Courier states that \$100,000 have already been subscribed towards the construction of a railroad between San Francisco and the beautiful valley of Santa Clara, and that a committee is about to visit San Francisco to invite further subscriptions. The whole amount of money wanted is \$250,000. The work seems to be feasible, and there is a reasonable prospect of its being carried through.

**The San Jose Railroad.**—It seems that the project of building a railroad between San Jose and San Francisco is entertained with a feeling of sincerity by its projectors. We go for all improvements and trust that the work may be accomplished. At a meeting on Saturday evening, the committee on the subscriptions made a very encouraging report, and it was resolved that the books should be opened immediately.—*Id.*

#### Connecticut.

**New London Railroad.**—The following named gentlemen were chosen directors by the stockholders of this road, on the 15th ult., at the annual meeting in New Haven:

Frederick R. Griffin, Joel Tuttle, of Guilford; Henry L. Chaplin, of Saybrook; Wm. P. Burrall, of Bridgeport; Henry Hotchkiss, of New Haven; E. E. Morgan, of New York; Ely A. Elliott, of Clinton; Charles C. Griswold, of Lyme, and Elias Perkins, of New London.

The board of directors met immediately after, and was organized by the choice of Frederick R. Griffin as president, and Ralph D. Smith as secretary and treasurer.

#### Shoe Manufactures at Lynn.

In the Directory of Lynn it is stated that the number of shoe factories in the city is 155, and the following is the number of persons employed by them and the amount of the annual product:

Cutters, commonly termed clickers.....	295
Workmen, termed cordwainers.....	3,779
Females, termed binders.....	6,412
Pairs of women's and children's shoes, boots and gaiters.....	4,571,400
Value.....	\$3,421,300

The value of the raw material used in the manufacture is estimated at \$1,627,716, and the capital invested in the business by the manufacturers at \$1,043,650.

#### Trial of the Humboldt.

The new steamship Humboldt, built to run between New York and Havre, in connection with the Franklin, made a trial trip down the bay yesterday. She accomplished the distance from the wharf at the Novelty Works to the Light Ship, outside Sandy Hook, in about three hours and thirty minutes. The wind was blowing strong from the southeast at the time, and there was a powerful current running in, so that no fair estimate of her speed can be formed from this trial.

The dimensions of the Humboldt are as follows: Length on deck, 290 feet; of keel, 283 ft.; breadth of beam, 40 feet; depth, 27 feet; registered tonnage 2200 tons. In place of the usual curved bow, hers is perfectly straight, and thus affords six feet additional breadth of deck room. The body of the vessel is of live oak, and by an adaptation of double floors, no butts or joints are visible below the engines and boilers. Her frames and timbers are secured by iron and copper bolts. She is rigged with three masts, and no bowsprit. The cylinders of her two side lever marine engines are 95 inches diameter, with pistons of 9 feet stroke; diameter of

wheels 35 feet; shaft 21 inches. She has four boilers, each 11 feet diameter by 27 feet 6 inches in length, and containing 32 furnaces.

The Humboldt positively sails for Southampton and Havre on the 6th inst.

#### Maine.

**Kennebec and Portland Railroad.**—A meeting of the stockholders of the Kennebec and Portland railroad company, was recently held in Gardiner, to take into consideration a proposal from the Somerset and Kennebec corporation, to lease their road, when built, for a term of twenty years at six per cent—provided it does not cost more than \$600,000.

Remarks were made in favor of the measure by Hon. Ruel Williams, Hon. James W. Bradbury, Friend Lang, Judge Weston, Hon. R. H. Gardiner and others.

The question was taken by shares—1407 yeas, 30 nays. A vote was also passed unanimously, instructing the directors to petition the legislature for such modification of the charter of the company as will be necessary to authorize this measure.

#### Pennsylvania.

**Susquehanna Railroad Co.**—The enterprise covered by the charter of the "Susquehanna Railroad Company," recently enacted by the Pennsylvania legislature, is undoubtedly one of leading importance to the numerous interests whose welfare is to be promoted by it. It contemplates the construction of a railroad commencing at and connecting with the northern end of the York and Cumberland railroad; thence running up the west bank of the Susquehanna river and crossing and connecting with the Pennsylvania railroad; thence continuing up the west bank to a point opposite Dauphin, where it will pass to the east side of the river by a suitable bridge; connecting at Dauphin with the railroad leading to the semi-bituminous coal fields; passing up the east bank of the Susquehanna river from Dauphin to Sunbury, and in its course intersecting and connecting with the Lykin's Valley railroad, the Mahanoy railroad, and the Shamokin railroad, each of which penetrates its corresponding anthracite coal region. This first great division of the enterprise, which we hope to see promptly undertaken and completed, holds out assurance of direct and great advantage to the city of Baltimore, to the Baltimore and Susquehanna railroad, to the York and Cumberland railroad, to the whole agricultural region above Harrisburg, and to the four coal companies which will thus have a direct and rapid communication with the Baltimore market. The route from the west end of the Harrisburg bridge to Sunbury, although comparatively a short one, possesses advantages of the highest importance. Within the first six miles of its progress northwardly it will consummate a direct connection with the Pennsylvania railroad on the west side of the Susquehanna river, and thus save time, expense and distance in the intercommunications of Baltimore and Pittsburgh.—Within the second six miles the road will pass to the east bank, and the coal trade of the Dauphin and Pequa company rendered directly available. So, in like manner, as the work advances up the river to Sunbury, will it command at each successive step new and important accessions of trade.

#### Erie Canal vs. the Mississippi River.

We find that most of the railroad companies in Ohio, Indiana and Illinois are ordering their iron by way of New York and the Erie canal, instead of the Mississippi river, and that the former is fast becoming the favorite route between the Western States and the ocean. The enormous charges at New Orleans bid fair to drive from that city a large part of the merchandise and freight which formerly took the Mississippi route. Take the article of railroad iron for instance. This, if landed at New Orleans, is subjected to a *drayage* charge of three dollars, (in addition to other charges,) a much larger sum than the whole cost of shipment

from New York to the former port. In the summer and autumn months, it is very difficult to get iron forwarded at all, in consequence of the general suspension of business, and the low stages of water.

By the Erie canal, merchandise can be forwarded from this city during the whole season of navigation to almost every part of the west at an expense but little, if any, exceeding that of forwarding by way of New Orleans, with the additional advantage of a much better climate, the certainty that it will reach its place of destination, within a given time, and by a route where it can be looked after for the whole distance by those interested.—By the Erie canal, heavy articles, such as iron, can be forwarded to any point on Lake Erie at a cost not much exceeding one-half of a dollar per ton. This will be much reduced in the enlargement of the canal. As soon as the enlarged boats of 224 tons shall commence running, we may expect to see the Erie route the grand outlet for the greater part of the Mississippi Valley. New York is the great point to which western produce is forwarded, and when the expenses by either route shall be equal, we may naturally expect that the northern route will take the business, as the route of convenience as well as of economy. Would it not be well for New Orleans to look at this matter, for the purpose of seeing how her business is endangered by the improvements now in operation by her enterprising northern rivals.

#### Continuous Line to Chicago.

We are happy to learn that arrangements have been made which will enable the Central railroad company to construct their line from Michigan city to Chicago. The work of construction will be immediately commenced. The iron has been contracted for, and ere another year passes the locomotives of the Central railroad company will whistle in the streets of Chicago.—*Detroit Free Press.*

#### Railroad Law.

**U. S. Circuit Court.**—Henry Baldruff vs. Camden and Amboy Railroad.

This was an action against the company, as carriers of passengers and their baggage, from New York to Philadelphia. The Jury in the Court below found a special verdict as follows: That the defendants are carriers of passengers and their baggage, and not carriers of merchandise from New York to Philadelphia—that the defendants had published in the public daily newspapers of New York and Philadelphia, from May to September, 1846, an advertisement, and delivered to the plaintiff, (now defendant) who is a German, and did not understand the English language as well as the other passengers, on the 22d of August, 1846, a card or ticket.

The plaintiff took passage in defendant's line, upon the said 22d August, 1846, and put on board the steamboat Independence, belonging to defendants, and forming part of defendants' means of conveyance, among other baggage, a trunk containing 2,101 silver coins, commonly called French five franc pieces, and also certain articles of wearing apparel. The said trunk was directed to the conductor, or other agent of defendants, on board of said boat. The extra weight of plaintiff's baggage, including the said trunk, was paid for, and the said agent did take charge thereof. The plaintiff did not notify the defendants, or their agent, that the trunk contained coins or money, and no special agreement was made by them to accept or carry the same. The said trunk was lost and not delivered to the plaintiff upon the arrival at Philadelphia, or at any time thereafter.

If the Court shall be of opinion that the defendants are responsible for the injury arising from the loss of the money or silver coins aforesaid, then the Jury find for the plaintiff, and assess the damages at twenty-two hundred and forty-five dollars and ninety-five cents (\$2,245 95.) If the Court



shall be of opinion that the defendants are not liable for the injury arising from the loss of the money or silver coin aforesaid, then the jury find for the plaintiff and assess the damages at ten dollars.

The District Court gave judgment that the plaintiff recover the larger amount.

#### Accidents on Massachusetts Railroads in 1850.

The annual reports of the railroad corporations for 1850, show the following fatal or serious accidents during the year:—Lowell, three killed, four injured; Maine, 3 killed, 3 injured; Providence, two killed; Worcester, three killed, eight injured; Cheshire, two killed, five injured; Eastern, three injured; Fitchburg, five killed, three injured; Nashua and Lowell, two killed, two injured; Old Colony, two killed, five injured; Providence and Worcester, four killed; Taunton Branch, one killed; Vermont and Massachusetts, two killed; Western, eleven killed, one injured. The total is forty-three killed, and thirty-four severely injured. Of the killed, two were engineers, [one by the explosion of a boiler,] two merchandise conductors, one road agent, eleven brakemen, [mostly by striking bridges,] and two baggage masters; eleven were killed while on or crossing the track; five in consequence of being intoxicated; two passengers were killed by accidentally falling from the platform of the cars. Only three passengers were killed while actually occupying their proper places in the cars, and this was in consequence of the breaking of an axle of a car on the Western road at Hinsdale.

#### The Tehuantepec Road.

This enterprise, which constitutes an important link in the great line of which the Jackson road is to be the great south-western trunk, is, we learn, in quite a successful and promising condition.—The reports of its failure are idle fictions of the enemies of this great national work. The survey is proceeding rapidly, and without interruption. The hydrographical party having concluded their duties, will return shortly. A schooner with supplies, and a reinforcement of the surveying party, under Mr. Sidel, left the city a few days ago to proceed to the Coatzacoalcas. The work goes on bravely, and it is by no means certain that the grant to Garay has been annulled by the Mexican Congress.—*N. O. Delta.*

#### Line of Steamers from New York to Richmond, Va.

Stock has been subscribed in Richmond, Norfolk and New York, and a contract made with R. F. Loper, of Philadelphia, for building a steam propeller to run between New York and Richmond via Norfolk and City Point, to be on the line some time early in July next. The dimensions of this vessel are to be as follows:—150 feet long, 25 feet beam, 9½ feet lower hold, 7 feet between double engine, with 26 inch cylinders. Capacity approaching 500 tons. Three-eighths of the stock is taken in Richmond, and about one-quarter in Norfolk, and the balance in New York. Rankin & Whitlock are the agents in Richmond. This vessel is, we understand, only the pioneer of a line of three, to run regularly between Richmond and New York. Subscriptions for building the second vessel have already been partially made; and will be completed in a few days. The vessels not yet contracted for are to be of larger dimensions than the one now building.

#### Kentucky.

*Covington and Lexington Railroad.*—There is a rumor afloat that the contractors on the Covington and Lexington railroad have discontinued work, and that there is nothing doing, etc. Justice to the company demands a statement of the facts. Unfortunately the company contracted several miles of the road to an individual who sublet a large portion of it; and the difficulty is with him and his contractors. We are authorized to say, that every contractor from the company is pushing the work rapidly. There has been no difficulty with them. We may add, the company has punctually,

at each estimate, paid all that was due to contractors, and that it is fully able to meet all its engagements. The difficulty between the sub-contractors will soon be arranged and the work on that part of the line go on.—*Covington Journal.*

#### Illinois.

*Central Military Tract Railroad.*—This road is to connect with the Northern Cross railroad at some point between Quincy, on the Mississippi, and Meredosia, on the Illinois river, and running northward through the heart of the Military district, the finest portion of Illinois, will pass through the towns of Macomb, Galesburg, Henderson, etc., to some point on the Rock Island and Chicago road. A sufficient amount of stock having been subscribed and paid in, a meeting of the stockholders was held at Henderson on the 12th ult. for the purpose of organizing. The following gentlemen were elected directors:—Wm. A. Wood, Silas Willard, James Bunce, G. C. Lanphere, L. E. Conger, W. H. McMurtry, E. T. Elliott, I. M. Wetmore, Ezra Chapman, Alfred Brown.

Gov. McMurtry was elected President of the board, G. C. Lanphere Secretary, and William A. Wood Treasurer.

#### Missouri.

*Plank Road to the Iron Mountain.*—We understand, says the St. Louis Republican, that a reconnaissance of the country between Ste. Genevieve and the Iron Mountain, has just been completed, and that a favorable report is made of the practicability and value of the proposed plank road. The capital stock of the company has been subscribed, and the work placed under the general direction, as consulting engineer, of Mr. Kirkwood, the Chief Engineer of the Pacific railroad company. Under his directions this reconnaissance has been, and the parties for survey are about commencing their labors. The work is to be put under contract with the least possible delay, say between the 15th June and the 1st July, and urged to immediate completion.

The projectors contemplate branches to the Pilot Knob, and to the lead mines near Frederickton, and a continuation to the Potosi mines, thus opening to constant market an immense mineral wealth. The main trunk of this road to the Iron Mountain will be about forty-five miles in length, and passes through fine farming land, and where there is an abundance of timber, both oak and pine. Farmington is one of the first points.

The above is but one of the several plank roads which are about being commenced.

#### New York.

*Canandaigua and Niagara Falls Railroad.*—The engineer in charge of this road has completed a survey of the whole line, from which we gather the following particulars:

The line, as surveyed, passes through Batavia, and is the most direct line to the Niagara river which can be run, making the entire distance 92 miles, 2 of which may probably be saved in locating the line near Akron, Erie county. The grades nowhere exceed 40 feet per mile, and more than one-half of the entire distance is either level, or the grades of a very light order. With a single exception there will be no curve of a less radius than 5,700 feet, and the per centage of straight line is greater than that of any railroad in the State, some of the tangents running as high as 28 miles. Mr. Smith estimates that there is on the route at least 80 miles of straight line.

The report concludes with the following:

"From the above statements you will be fully capable of appreciating the feasibility and utility of the project, knowing, as you do, that the greater part of the line runs through a country unequalled in fertility by any in this State or in the Union, and making, as it will, the connecting link on the shortest and most direct line from the far west to the City of New York, it must prove a very profitable investment, and I trust you will see fit to use every exertion for its early completion."

#### Rhode Island.

*Plainfield Railroad.*—We learn from the Providence Journal, that the efforts which have been making in that city to aid in building the Plainfield railroad have been successful—\$400,000 having been unconditionally subscribed. A meeting of the stockholders will soon be called for the purpose of organization.

#### New Hampshire.

*Cocheco Railroad.*—A correspondent of the Portsmouth Journal who lately passed over the route of the Cocheco railroad, between Farmington and Alton Bay, states that sleepers were being distributed along the line, ready to be laid down, the steamboat which is building to connect the road with Wiers is in a forward state, and every thing indicates the vigorous prosecution of the work. Early in September the road will be completed to the Bay. The villages along the route gives evidence of great thrift. The freight business from these places is now considerable, and there is a prospect of its increase.

#### New York.

*Rochester and Syracuse Railroad Direct.*—There was a meeting of the directors of this road on the 2d inst., at which the line was located through from Rochester to Syracuse. It will leave the present Rochester and Syracuse railroad at Brighton, will pass within one-half a mile of Palmyra, Newark, Port Byron, and Jordan, and within one quarter of a mile of Lyons. Allen's Creek, the most considerable impediments on the route, will be crossed on embankment and bridge at the height of seventy feet at the lowest point. The bridge portion, with the embankment, is about half a mile long, the construction of which will be the principal extra outlay on the line. The lettings will soon be made, and the road put in the way of construction.

#### Alabama.

*Alabama and Tennessee Railroad.*—The Gadsden Herald, speaking of the lettings which have recently been made to the planters along the line of the above road, says:—

We are pleased to announce that at the letting of the Alabama and Tennessee river railroad, which took place in our town, on the 19th, 21st, 22d, and 23d of this month, proposals were received from a large number of the stockholders in this and the adjoining counties for the grading of the railroad between Gadsden and Davis's Gap. This shows the right spirit. We are satisfied from the character and ability of the stockholders, who have proposed, that the work will be executed within the time given, which is two years from the date of proposal. A large amount of the work proposed for, is to be paid for in stock of the company. This is an admirable arrangement, and will tend greatly to relieve the difficulties of raising the means of construction. We are informed that if the stockholders will comply with their proposals of which, as we said before, we have no doubt the railroad will be completed through our section in three years.

Our citizens have done well, and we hope they will not "grow weary in well doing" but will



stand up to the work and push it through. Let not the great enterprise be forgotten or lost sight of by selfish interest, but let each and every one put his shoulder to the wheel and his hand in his pocket, and the time is near when we shall hear the "snort of the iron horse," in the mountains of Alabama.

## AMERICAN RAILROAD JOURNAL.

Saturday, May 10, 1851.

### Notice to Contractors.

*Pennsylvania Railroad.*

PROPOSALS will be received from the 9th to the 12th of June next, at Johnstown and Summit, for the Grading and Masonry of that part of the Mountain Division of the Pennsylvania Railroad between Altona, in Blair county, and Pringle's Point, a few miles below Jefferson, in Cambria—a distance of 25 miles.

The road within this distance will cross the Allegheny mountains, encountering some of the heaviest grading offered in this country. In addition to a number of extensive cuttings, embankments and culverts, there will be one tunnel 1200 yards in length at the summit of the mountain, and another of 300 yards through Pringle's Point.

Terms cash, monthly. For further information apply to EDWARD MILLER, Esq., Associate Engineer, Blairsville, Indiana Co., or to STRICKLAND KNEASS, P. A. Engineer, Altona, Blair county.

J. EDGAR THOMSON,

Chief Engineer.

Engineer Department P. R. R. Co.,  
Philadelphia, May 1st, 1851.

### To Railroad Companies, etc.



The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

I also invite attention to an improved PATENT SPRING LOCK, for SLIDING Doors to Freight and Baggage Cars, now in use upon the Pennsylvania Central, Greenville and Columbia, S.C., Reading, Pa., and other Railroads.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,

46 South 8th St. Philadelphia.

May 9, 1851.

### New York and Erie Railroad.

The formal opening of this great work is to be celebrated the coming week in a manner worthy the event. The President and his cabinet, with many other distinguished persons, have been invited to take part in the ceremonies, and are to accompany the excursion from this city to Lake Erie. The train for this purpose will leave the foot of Duane street on Wednesday morning, May 14th, at six o'clock, and return on Saturday. We hope in our next paper to give a suitable account of this great event.

### Covington and Lexington Railroad.

We invite attention to the exhibit of this company in another column. It is a leading project in Kentucky, and its main object is to open an outlet to the Ohio river, opposite Cincinnati, for the rich and central portions of that State. Thirty-five miles of that road are already under contract, and forty more were advertised to be let on the 5th instant.

To aid in the above work, the company are now offering for sale the bonds of the city of Covington for the amount of \$100,000. That city now contains nearly 10,000 inhabitants, and is well known

to be one of the most thriving towns in the west. The safety of these securities is undoubted, and as the credit of Kentucky, and of her cities, has always been without a flaw, we can commend nothing better to the attention of capitalists.

### Population of Illinois.

The following is the population by Congressional districts.

	1850.	1840.
First District.....	101,108	89,102
Second ".....	84,084	62,008
Third ".....	101,009	88,814
Fourth " (Chicago).....	191,018	71,230
Fifth " (Peoria).....	140,392	82,787
Sixth " (Galena).....	185,999	59,488
Seventh ".....	98,537	61,420
Total population.....	849,992	473,375

### Stock and Money Market.

Since our last, the prices of stocks have not materially changed. There is a gradual appreciation of such as are well known to offer a safe investment. The fluctuations in many of our leading stocks, are due to the supposed influence of rival projects, and we must expect this to continue till a sufficient time shall have elapsed, to show the absolute strength of each line.

The monthly returns of railroads show a very marked increase in their receipts. We believe that this increase is uniform throughout the country. While the income of our roads are much greater than formerly, stocks remain very near the old mark. This is a very favorable feature of the times. It indicates a very healthy state of feeling in the money market. So long as we can keep from exceeding a reasonable limit in prices, we shall escape the danger of falling below it.

Money continues abundant, with but little doing in new securities. Negotiations for new works are what chiefly concern our readers, and we are obliged to state that the market in these is inactive. The prospect, however, is not unfavorable. New York, for the two past years, has contributed a vast sum for roads, south and west, and capitalists are now disposed to wait awhile for the purpose of seeing how these investments will turn out.—Should they prove fortunate, and should our roads continue to be well managed, the favorable impression which now exists will be confirmed, and a new impulse given to works of internal improvement. As it is, large amounts of bonds are constantly being negotiated, though many of them at a pretty large discount. This, though a cause of some complaint, operates as a very wholesome check upon extravagance, and upon the prosecution of unwarranted schemes. Could every company obtain what money it wanted at par, it would be the greatest misfortune, both to our railroads and to the community, that could happen. As it is, very few companies not deserving of credit can get money at all. Those that can, are taught the economical expenditure by what it costs to get it.

We can hardly give quotations of sales of bonds, as these vary to a great extent, and sales are often mixed up with other transactions. Eighty-five cents net may be considered a fair price for good railroad bonds.

The rail market by the last steamer was dull, with a prospect of a decline. Quotations were from £5 to £7-6.

The Harlem road continues to gain largely.

The receipts in April were.....\$49,610 88  
April, 1850.....39,375 77

Increase, 26 per cent.....\$10,235 05

The April traffic of the New York and New Haven railroad shows a large increase. The receipts are:

From passengers.....	\$46,496 51
From freight, etc.....	8,500 00
	\$54,996 51

Paid Harlem road.....3,751 36

Net receipts.....	\$51,245 15
April, 1850.....	33,009 69

Increase about 60 per cent.....\$18,235 46

The receipts of the Ogdensburg railroad for the month of April, have been as follows:

Freights.....	\$19,643 51
Passengers.....	7,018 46
Mail.....	425 00

Total.....\$27,096 97

The receipts of the Madison and Indianapolis road continue to show a very large increase of traffic. The freight business of the last week was interrupted two or three days by the failure of a bridge. The earnings for the first seventeen weeks are as follows:

	1850.	1851.
January.....	\$18,289	\$30,700
February.....	12,688	24,550
March.....	20,625	29,800
April.....	18,234	25,000

Total.....\$69,833 \$110,050  
Increase, \$40,000.

### SALES OF STOCK IN NEW YORK.

	April 30. Sales.	May 6. Sales.
U. S '67 Loan.....	117½	117½
Erie R.R.....	88½	89½
Harlem R.R.....	73½	73½
Stonington.....	43½	44
L.I. R.R.....	23½	21½
Norwich & Wor....	65	63
Del. & Hudson.....	129½	128
Reading.....	57½	55½
Morris Canal.....	16½	16½
Erie income.....	96	97½
" " Bonds.....	102½	102½
Canton.....	70	71½
Farmers Loan.....	65	66

### SALES OF STOCKS IN BOSTON.

	April 29.	May 7.
Old Colony Railroad.....	66½	168½
Boston and Maine R.R.....	104½	104½
Eastern Railroad.....	102½	101½
Fitchburg Railroad.....	111½	112½
Michigan Central Railroad.....	98	99½
Northern Railroad.....	69	70½
Vermont Central Railroad.....	35	36
Vermont and Mass. R.R.....	32	31½
Western Railroad.....	102½	103½
Ogdensburg Railroad.....	40½	40
Rutland Railroad.....	57	58½
Boston and Worcester Railroad.....	103½	104
Rutland Railroad Bonds.....	97	98½
Ogdensburg Railroad Bonds.....	97½	97½
Vermont Central R.R. Bonds.....	91½	91½
Boston and Providence R.R.....	85½	87½
Philadelphia, Wilm'gton & Balt.....	29½	29½
Concord R.R.....	56	56
Manchester and Lawrence.....	90	90

### Pennsylvania.

*Railroad through Erie County.*—The Legislature of Pennsylvania, at its last session, failed to take any action in relation to the road now in progress from Erie to the Ohio State line, by the Franklin Canal company. We presume that this work will be completed before the next session of the legislature of that State, and be beyond the power of legislative interference.

The above work has been going on under a charter granted to the *Franklin Canal Co.* in 1844, and the supplement thereto, passed in 1849, gave them the privilege of constructing a railroad on the



banks of the old Franklin canal, and of extending said road from the northern end of said canal to Erie, by such route as they may deem *expedient and advantageous*. The friends of the above project decided that it was "expedient," under the authority given, to make a railroad from Erie to the Ohio State line, while the opponents of the line endeavored to restrain the company by a legislative enactment. Having failed in this, and left the bars down, the animal will probably be out of harm's way before any danger can happen again.

From Dunkirk to Cleveland, the whole line is now under most rapid progress; and but a short time will elapse before the traveller will get into the cars at Jersey City, and get out at Cincinnati.

#### Ohio.

**Cleveland and Pittsburgh Railroad.**—This road, which is now open to Ravenna, 38 miles, is doing a remarkably fine business, carrying nearly 1,500 passengers per week, and this, before the opening of canal or lake navigation, besides a large amount of freight. The receipts from both of the above sources far exceed the estimate of the most sanguine friends of the road. The business, too, has been much crippled for the want of sufficient machinery to do all that offers. Two additional locomotives are to be placed immediately upon the road, and others are to follow very shortly.

The work south of Ravenna is progressing with all possible speed. Large forces are at work along the whole length of the line, and more are being added every day. In a few days an extensive gang will commence putting down the rail south from the above point. The iron has all arrived necessary to complete the road to the Ohio river, a distance of 98 miles from Cleveland.

As is well known, this road traverses one of the finest portions of Ohio. In the importance of its connections, it cannot be excelled by any line in Ohio. It unites Lake Erie and the Ohio river, at their points of nearest approach, and by a line of less than 100 miles. The importance of such a connection will be readily understood by persons unacquainted with the particular geography of that region. The affairs of the company, under the direction of its president, Cyrus Prentiss, Esq., have been conducted with signal ability; and this has contributed not a little to the ease and expedition with which this work has progressed. We regard the above as one of the most promising and best managed projects in Ohio; one that is sure to pay well as a private enterprise, as well as to confer great public benefit.

#### European and North American Railroad.

We have before us a copy of the recent correspondence between the British Government and the Provincial Government of Nova Scotia, in reference to the Quebec and Halifax and the European and North American railroads.

On the 27th of March, 1850, the Legislative Council of Nova Scotia, in an address to Sir John Harvey, the Lieutenant Governor of that Province, requested him to call the attention of the British Government to the project of the Quebec and Halifax railroad, for the purpose of securing to this work the aid and encouragement of that power. In pursuance thereto, Sir John Harvey addressed a dispatch to the Home Government, dated May 2, 1850, urging upon its attention the proposed work. To this Lord Grey answered by a dispatch dated June 19, 1850, declining to recommend the project to the consideration of Parliament. On the 31st of July, 1850, the Portland Convention

was held, the design of which was to promote the construction of the European and North American railroad; and as a complete revolution had taken place in the public mind of the Provinces, in relation to the former project, which was now virtually abandoned, Sir John Harvey again addressed the Home Government, soliciting its guarantee of the Provincial debentures for the latter work. To this, a similar reply was returned; but nothing daunted by these repeated rebuffs, the Government of Nova Scotia, on the 25th of October last, dispatched Hon. John Howe, a member of the council, to England, for the purpose of presenting this matter to the British Government in person. On the 18th of November, Mr. Howe had an interview with Lord Grey, and was desired by him to prepare a statement of the reasons upon which the Province based its petition for aid. In compliance with this order, Mr. Howe, on the 25th of November, submitted to the Colonial Secretary an elaborate memorial, stating the object of his mission. This memorial, after reciting the efforts that had been in vain made to enlist the Home Government in aid of the Halifax and Quebec railroad, and which had been abandoned in consequence, goes on to say that a new project had been presented to the attention of the people of Nova Scotia, to wit: the European and North American railroad—that this project offered great advantages over the proposed road to Quebec—that it would pass through a highly cultivated country—would cost only one-half the estimated cost of the Quebec railroad—that it would in effect be a prolongation of the railroads of the United States to Halifax, and would become a part of the great route of travel between the two continents. The memorial also states that American capitalists offer upon Provincial guarantees, to complete the whole of the road through the Provinces, but that Nova Scotia is unwilling to permit this to be done, for fear that this great "highway of nations," which should be kept entirely under British control, should fall into foreign hands. Influenced by these considerations, the Colonial Government sought aid from the mother country, in the guarantee of the bonds of the former, by which the latter would be enabled to obtain money at 3½ per cent., and effect a saving in interest of £20,000 annually, on £800,000, the estimated cost of the Nova Scotia portion of the road. Such was the object of Mr. Howe's mission, the result of which we gave in our last issue. Mr. Howe went out to England as the agent of the European and North American railroad, and returned with a proffered aid to the Quebec, the direct rival and antagonist of the former. He seems hardly conscious that any substitution has been made, and returns his most humble thanks for a favor, which he never thought of asking for, and which, if accepted, would certainly prove fatal to the object of his mission. A more successful piece of humbuggery than that practised upon this agent we have never witnessed. If he has not been most effectually sold, we do not know who has. The Colonial Secretary, without taking hardly the slightest notice of the real object of Mr. Howe's mission, gravely informs him that he will recommend to the consideration of Parliament the subject of guaranteeing a loan sufficient to build the Halifax and Quebec railroad, upon condition that the road pass entirely through British territory and through portions of the three Provinces of Nova Scotia, New Brunswick and Canada; and that these Provinces unite in pledging all their revenues for the purpose of paying the interest on such loan, and of provid-

ing a suitable sinking fund. This road would be about 650 miles long, and would cost something over \$20,000,000. To these propositions, New Brunswick has openly rebelled, which defeats the whole project. Canada, we have no doubt, would be as unanimous against it; and we believe the proposition would be just as unpopular in Nova Scotia.

We look at this correspondence through our own medium, and very likely with prejudiced eyes; but we confess it does not impress us with any exalted notions of any of the actors that are parties to it. In the first place, Lord Grey is either playing a part, or he is grossly ignorant in reference to the subject upon which he is writing. We accept the former hypothesis, for he says he does not think the construction of the Halifax and Quebec railroad justifiable as a commercial speculation. He is probably fully aware that it is utterly impracticable, and agreed to aid the Quebec railroad merely as a *ruse*, to get rid of the importunity of Mr. Howe—well knowing that it would end in nothing. If this was his object, he has succeeded most admirably.

The memorial of Mr. Howe, though well written, and part of it containing some interesting information and statistics, sounds somewhat queerly in this latitude. He seems to be an excellent, though timid, gentleman, haunted by an idea of being, at some time or other, eaten up by the Yankees. He states, in the commencement of his memorial, that these omnipresent geniuses had offered to build the whole line, and take what the Provinces had to offer in payment. But Mr. Howe only sees in this another *Trojan horse*, threatening destruction under the fairest guise. Let these men but once get within their walls, and all is lost. He regards the fascination of the Yankees, as he does that of serpents—horrible, yet irresistible—by all means to be avoided, but fatal if one comes within the sphere of its attraction. He depicts, in the most feeling language, the unfortunate condition of the Provinces, shut out alike from the markets of the old world and the new; poor, with the most abundant resources; deprived of all the objects for the exercise of a lofty ambition, mere citizens of a principality, with a tether limited to the narrow and humble range of colonial office, and contrasts their depressed condition with that of the citizens of the great fierce "Democracie" on the one hand, and those of Great Britain on the other, within whose reach are placed the highest prizes that reward human ambition. He pleads most eloquently the past loyalty of Nova Scotia, which, like a dutiful child, has received no rewards for good conduct, because in no danger of going astray; while Canada, like the prodigal son, had received the tatted calf, though she had spent millions of the paternal estate in her riotous proceedings. He says that the loyalty of Nova Scotia has been without a flaw; but intimates, that he will not promise that she may not be led to do something dreadful, unless properly restrained. That she cannot get on much longer in the old way—that something must be done, or all this loyalty may soon turn up missing. He tries in one part of his argument to convince Lord Grey that John Bull and Brother Jonathan never will set their horses together. Hear him.

"A few years ago I spent the 4th of July at Albany. The ceremonies of the day were imposing. In one of the largest public halls in the city, an immense body of persons were assembled. English, Irish and Scotch faces were neither few nor far between. In the presence of that breathless au-



dience, the old bill of indictment against England, the Declaration of Independence, was read, and at every clause each young American knit his brows, and every Briton hung his head with shame. Then followed the oration of the day, in which every nation, eminent for arts, or arms, or civilization, received its meed of praise, but England. She was held up as the universal oppressor and scourge of the whole earth—whose passage down the stream of time was marked by blood and usurpation—whose certain wreck, amidst the troubled waves, was but the inevitable retribution attendant on a course so ruthless. As the orator closed, the young Americans knit their brows again; and the recent emigrants, I fear, carried away by the spirit of the scene, cast aside their allegiance to the land of their fathers."

This did the mischief, we are certain. This knitting the brows! What English nobleman and English lady would consent to ride on a railroad in this country, with a parcel of Yankees on each side knitting their brows? Intolerable! Unlucky "4th of July" that, which so affected Mr. Howe, and which forced the European and North American railroad to steal on its way to the St. Lawrence, through the intricate, uninhabited wilds of New Brunswick and Canada, to avoid these fierce looking Yankees.

On the whole, when we divest this correspondence from the importance which great names attach to it, it inspires us with but little respect for its actors. It is impossible to avoid this feeling. It is hard for us in the United States to appreciate the motives and feelings which actuate the government officials of some of the British Provinces, or some of the loyal subjects on this side of the water. They remind the reader of some antiquated aunt, living in the precise observance of the ideas and customs of half a century ago, and shocked at everything that does not square with her standard of traditional propriety. We should like to see the experiment tried, of having some Englishmen offer to build some of our leading roads. We guess they would not wait long for a favorable answer. We should be very willing to take the future on trust, and run our risk of teaching these Englishmen how to behave. Every foreigner is equally acceptable in this country, even should he be, in his religion, a Musselman, and in politics, a worshipper of the Czar. With us, the greater number of what other people call heresies, the greater our quiet and safety. Where perfect liberty exists for all, no two will think alike upon any subject; of course no two can unite upon any points, upon which they will agree to oppress the third. Has he money? is the only question we ask of the foreigner. His politics and religion concern himself; his money, the whole community.

Mr. Howe seems to think that the Provinces can continue to hug their old ideas still closer, and become rich, thriving and great; forgetting it is those very principles, which he values so highly, that has brought them into their present condition. Every effect must have its cause, and we do not see why a greater infusion of the *past*, will not produce a greater intensity of the *present*. What the Provinces want is self-reliance, and a habit of taking care of themselves—in other words, an adaptation to the circumstances in which they are placed; and this can never grow out of a loyalty to past absurdities and traditions, but must spring from a proper estimate of present emergencies. They should invite to their aid every person that can offer a new idea, or a cent of money, no matter whether the idea is propounded by a cobbler, or a blacksmith. The Yankee puts himself to school of all creation. Asking questions is his great employment. The

Provinces are fast beginning to set up for themselves, and they should not reject some good advice, if homely. Many of them resemble a great family of boys, who have grown up supported by the paternal income, when all at once they are suddenly turned off upon the world to shift for themselves. Some members of this great family, we confess, present unmistakable evidence of having a pretty hard time of it. However, experience will in the end work out a cure. Reform will commence as soon as they are thrown entirely upon their own resources.

The city of Portland, Me., with about 20,000 people, single handed, provided the means for building 150 miles of the Atlantic and St. Lawrence railroad, which is to cost \$4,500,000. The whole Province of Nova Scotia, with 250,000 inhabitants, is committed to the proposed road through her territory, which is estimated to cost but \$4,000,000. We should be sorry to believe that they cannot accomplish what less than one-tenth of their number can readily do in the States. Mr. Howe's mission will, we think, convince them that it is useless to expect any valuable aid from the home government, and that the sooner they cease to rely upon any strength but their own, the better.

#### Pennsylvania.

**Williamsport and Elmira Railroad**—At an election held in this city, on Monday evening last, the following officers of this company were unanimously chosen for the ensuing year:

Hon. Eli Lewis, Lancaster, President.  
Archibald Robertson, Philadelphia, Secretary;  
R. N. Arms, Treasurer; Theophilus E. Sickles, New York, Principal Engineer of Construction;  
Robert Faries, Williamsport, Consulting Engineer and General Superintendent.

This company, we understand, is entirely free from debt. New stock has been subscribed to the amount of \$980,000. This, with a loan the company propose obtaining on 7 per cent bonds, will be amply sufficient to complete the entire road from Ralston to its intersection with the New York and Erie road, near Elmira, N. Y., and to relay with a T rail that part of the road which has been in operation for a number of years from Williamsport to Ralston.

Mr. Joseph Gonder, Jr., has taken the contract for the completion of the road within two years from the 5th of June next. We understand that the contractor and engineers will proceed to make the necessary preparations on the route in a few days. We know Mr. Gonder well, and he is well known throughout the Union as one of the most successful and energetic railroad contractors in the Union.

The contract requires the road to be constructed to correspond in width with the wide track of the New York and Erie railroad. The effect of this will be to increase the facility of passing on and from the N. York and Erie road. When it is considered that the lake trade, for the year 1848, amounted to the enormous value of \$186,484,905, being forty millions of dollars more than the whole foreign export trade of the United States—that this trade is constantly increasing—that a very large portion of it will proceed to the seaboard by way of the New York and Erie railroad—that on arriving at Elmira, both Philadelphia and Baltimore may be reached by the Williamsport and Elmira railroad, at a shorter distance, and by better grades than to New York city—it is manifest that the Williamsport and Elmira railroad must be regard-

ed as one of the most important and profitable railroads in the United States. The new railroad from Buffalo to Attica, and from thence to Hornellsville, now chartered by the name of the Buffalo and New York City railroad, will be entirely finished by the first of January next. This will bring on to the New York and Erie railroad a large amount of trade and travel, which will proceed east as far as Elmira, and then a great portion of it must necessarily proceed south by the Williamsport and Elmira railroad, being the most direct route to the seaboard. The new charter granted by the last Legislature of Pennsylvania, providing for a railroad connection with the York and Cumberland railroad on the west side of the Susquehanna at Harrisburg, and with the Williamsport and Elmira road at Williamsport, completes the great northern and southern line of railroad from Washington and Baltimore through Williamsport and Elmira to the lakes.

So important has the Williamsport and Elmira railroad been considered to the interests of Pennsylvania, that the Legislature has granted to it a bonus of all the tolls on the Pennsylvania Canal from Williamsport to the junction at Duncan's Island, (80 miles,) on all freight and passengers descending, which may be brought on to the Williamsport and Elmira railroad. This important bonus is to commence upon the completion of a single track to the New York and Erie railroad near Elmira, and is to continue for the period of fifteen years after that time.

We are assured, upon the best authority, that there will not be the slightest difficulty in negotiating the loan proposed. The security is most ample. The bonds are to be convertible into stock at the election of the holder. These bonds, we have no doubt, will be sought after as one of the most secure and at the same time profitable investments ever offered to capitalists.

The rails for the entire route, we understand, were contracted for yesterday upon favorable terms—to be made of Pennsylvania iron, and delivered at Williamsport.

The iron is to be manufactured by the celebrated Montour Works, at Danville, and it is, beyond all question, one of the best and most responsible establishments in this country, or in England.—The quality of the iron is well known, and we are glad to know the company is doing well.—*Pennsylvanian of the 7th.*

#### Anthracite Beds of Rhode Island.

In the year 1808, even before the coal mines of Pennsylvania were wrought, public attention was directed to the beds of mineral coal found along the shores of Narragansett Bay—mining operations were undertaken, and attempts were made to introduce the new field into domestic use. Though there seemed to be no lack of the material, these attempts, successively repeated for many years, all proved failures. Large sums of money were expended at various localities by one company after another, influential and enterprising men were engaged in the operations, some who were heartily interested in developing this new resource for the sake of advancing the prosperity of their native State, as well as adding to their individual wealth. But it was all of no avail. Rhode Island coal would not be made to burn. It was pronounced incombustible, and its mines were regarded as the last places to be destroyed in the day of universal conflagration. Still a few of the enterprises continued to live along in a sickly way even to the



present time. To be connected with them insured to one a character for credulity; and if a man of science risked his reputation so far as to speak of them, it was to damn them with faint praise—or worse. Notwithstanding all this, we were, rather against our will, and with a kind of feeling as if we did not wish it to be known, induced to visit some of these mines last December, and subsequently to repeat and extend our observations.—Some of the results on these we will now give.

At Portsmouth, at the northern extremity of Rhode Island, is the only mine now wrought south of Providence; and this at present by a small force of only twenty miners. It is one of the old mines, which has passed through several hands, and has for the last year been in possession of the "Portsmouth Coal Company," the members of which are mostly of Worcester, Massachusetts. The locality is ten miles north of Newport. The Fall river steamboats pass within sight of the mine, and large vessels may come to the wharf, which is within one hundred rods of the shaft. Three coal beds are here found in black slates, which, with a greyish sandstone, called by Dr. Jackson "greywacke," are the rock formations of this island. They repose in the form of a basin on the granitic bed beneath, the strata on the east side dipping towards the west, and those on the west side towards the east. The granite appears on the main land on each side.—Several beds of coal have been found in these black slates. At the Portsmouth mine there are no less than three beds within a cross section of about 300 feet. They incline at an angle of from 30° to 35° towards the east. The middle one of the three beds has been sunk upon by an inclined shaft following the coal-seam to the depth of 300 feet; and within the last two years this shaft has been carried down 200 feet farther. Levels go off in the coal each way from the shaft 1000 feet, and at the bottom these already reach more than 500 feet in each direction. The thickness of the coal bed has therefore been fully proved over a considerable area. This is found to vary from three feet to sixteen feet; the walls undulating in their course, approach and then recede from each other within these limits. No sudden breaks are seen in the beds, no contortions, indicating the action of violent disturbing causes; but, on the contrary, the stratification is as regular as it is commonly found in the anthracite beds of Pennsylvania. The quantity of coal in an acre may be calculated with a close approximation to accuracy; and no one at all acquainted with the character of these deposits can pass through the workings without being impressed with the large amount of coal this bed alone must contain. In soundness of structure it is not very different from much of the Pennsylvania anthracites. The lumps come out of large size, but on being broken up, perhaps a larger proportion goes into fine coal. This, however, proves to be no serious objection, for the fine coal pays a good profit for the supply of the brick and lime kilns on the sea-board, and is in demand to an extent much greater than the fine coal produced at mines far in the interior. No slate is found in the midst of the coal bed; but in its place are occasional bands of white quartz, and this mineral in fine net-work sometimes is seen in the sound lumps of coal. It is for the most part easy of separation, contrasting strongly in color with the dark shade of the coal itself.

The lowest of the three coal beds has been opened by a cross cut towards the west from one

of the levels in the middle bed, and it too has been pretty extensively proved by long galleries. It is about the same thickness as the bed now wrought but the coal is not so highly esteemed. It appears to be very ferruginous, and the water in the levels leaves a deposit of the yellow oxide of iron.

This mine employs a steam engine rated at about forty horse power. The water is pumped up by it, and the coal is drawn up on a little railway in iron wagons. The works are in good condition, and the mine produces about 800 tons of coal per month. This is sorted, and a portion of it screened by hand. There is a deficiency of machinery for the preparation of the coal for market, which will probably be soon supplied, as the company extends its operations.

As to the abundance and convenience of getting this coal, and transporting it to market, there can be no question. Its limited use is to be ascribed altogether to the bad reputation it has acquired for its incombustible qualities. Whether this may be considered as fairly established, or whether it may not to some extent be owing either to an unreasonable prejudice, or to want of skill in the mode of using it, is a subject well worthy of investigation, when we regard the low rates at which the coal may be supplied to our northern markets.

These beds were opened and the coal was offered for sale before we had any acquaintance with the anthracites of Pennsylvania. The first attempts both at mining and burning the new fuel were failures. It early acquired a bad name. It was taken from near the outcrop, where coal is seldom of good quality, and no encouragement was given to seek for it at the depth where it would be most likely to be sound, and of the best quality. Every new mine resulted in a new failure.

The early operators, either through wilfulness or ignorance, neglected to sort the coal from the quartz. Both were sold together. A farmer now living in the vicinity of the mine, who had been employed to sell the coal, informed us "he had sold hundreds of tons of stones." More recently another company, avoiding this error, committed another equally fatal, of giving their agents positive instructions to hold the coal at the same price, within twelve and a half cents a ton, with that of the Pennsylvania coal. By this means it was effectually kept out of the market, and the operations of the company soon ceased.

The present operations, carried on at a proper depth below the surface, care being taken to separate the quartz from the coal, and an extensive sale being already obtained by the greater cheapness at which it was offered the last winter, the question promises now to be fairly settled as to the economy of mining and using the Rhode Island coal.

We have before us a report of Dr. A. A. Hayes, who has been investigating the properties of this fuel on a large scale, at the Roxbury Laboratory, near Boston. Appended to the report are certificates of several manufacturers, who are large consumers of it in Providence, Boston, etc. From these we gather that it kindles with difficulty, but that it requires less draft when ignited than the Pennsylvania anthracites; it burns slowly, giving out great heat, does not require stirring, and leaves a less weight of cinders than the Pennsylvania anthracite in general use in New England. At the less price at which it can be offered, it appears to give full satisfaction, and is preferred to the Pennsylvania anthracites; and on the whole is recom-

mended as a good and economical article of fuel. These are very decided expressions, and coming from parties who are now purchasing the coal in large quantities for their own consumption, they certainly give an importance to the subject which will warrant us in giving it further notice in a future number of the Journal. We will then quote more fully from the account of the experiments of Dr. Hayes.

J. T. H.

### Notice to Contractors.

ENGINEER'S OFFICE, }

Petersburg, April 24th, 1851. }

PROPOSALS will be received until the 20th of May next for laying 40 miles of the Track of the South Side railroad.

The Railroad Company will furnish all materials.

Plans and Specifications will be exhibited for several days previous to the letting.

Personal security to the amount of about 20 per cent. of the contract or contracts will be required, and each proposal must be accompanied with a letter from a responsible person, stating that he will become the security.

C. O. SANFORD,  
3118 Chief Engineer.

### To Railroad Companies.

#### SALISBURY REFINED IRON.

THE Undersigned, having enlarged and perfected his Works, is now prepared to furnish Locomotive Tire of a better quality than have heretofore been used. Railroad Companies who may wish it, will be furnished with a set for trial, not to be paid for until they are satisfied of their superior quality over any other. Also made at short notice, and in the best manner, Locomotive Cranks, Engine and Car Axles, and other Locomotive Forgings.

All work ordered from me will be made of Salisbury Iron, and done in the best manner.

Address HORATIO AMES,  
Falls Village, Conn.

May 1, 1851.

### To Contractors.

ENGINEER'S OFFICE CENTRAL OHIO R. R., }

Zanesville, March 20, 1851. }

SEALED PROPOSALS for the Masonry of a Railroad Bridge across the Muskingum River at Zanesville, will be received at this office until the 15th of May next.

Also for the Iron or Wooden Superstructure of said Bridge, and for draw bridge across the Canal.

Plans and specifications furnished on the 1st of May next. Bidders may furnish their own plans and specifications, if filed at this office prior to that day.

By order of the Board.

ROBERT MAC LEOD,  
Chief Engineer.

### Stickney & Beatty, DEALERS IN IRON AND IRON MANUFACTURERS.

AGENTS for the Baltimore City Rolling Mill, (Works of Messrs. Ellicott) also agents for the sale of the Laurel, Locust Grove and Gunpowder (Balt.) Forge Pig Irons; Hupp's Cold Blast Columbia Wheel Iron, Fort and anti-Eatam Pig Irons. Caledonia, Columbia and Capon Cold Blast Boiler Blooms, warranted; Wm. Jessop & Son's Steel; Old Colony and anti-Eatam Nails; Bar Iron, Boiler Plates, Hoop, Sheet, Oval, Half Oval, Horse Shoes and other Iron. Exchange Place, Baltimore.

### Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscriber, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.

THOMAS J. LOVEGROVE,  
Machinist and Founder,  
West Falls Avenue, below Pratt st., Baltimore.

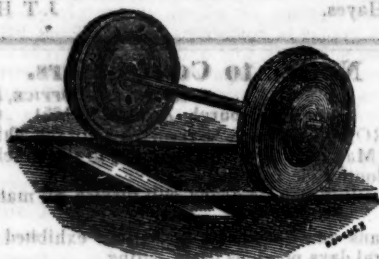


**Boston Locomotive Works,**

—Late Hinkley &amp; Drury—

No. 380 Harrison Avenue,  
BOSTON.

Locomotive and Stationary Steam Engines; Boilers; Iron, Brass, Copper and Composition Castings; Coppersmith's Work, and all kinds of Railroad Machinery furnished at short notice.

**Van Kuran's Improved Railroad Wheel,**

Patented May 1, 1849. Manufactured under the personal superintendence of the Patentee, as above.

Orders for any quantity of wheels executed with dispatch, and wheels and axles fitted in the very best manner and at the lowest rates. Address

DANIEL F. CHILD, Treasurer, Boston.

**Providence Tool Co.,**

MANUFACTURERS OF

Plane Irons, Tooth Irons, Soft Moulding and Rabbet Irons, Cornice Irons, Plow Bits, and Planing Machine Knives:

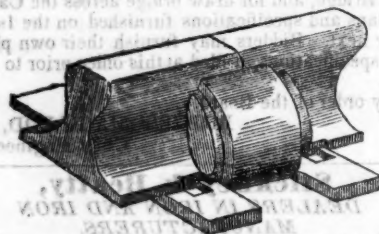
**NUTS, WASHERS AND BOLTS.**

—ALSO—

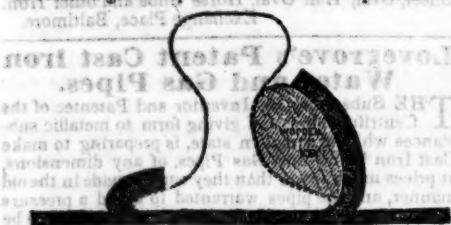
**PLATE HINGES AND PICK AXES.**

They are prepared to execute orders for all descriptions of Cold Punching and Job Work.

WM. FIELD, Agent. RUFUS WATERMAN, Treas.  
PROVIDENCE, R. I.

**Railroad Iron,  
SPIKES, AND  
WROUGHT IRON CHAIRS.**

THE Undersigned, Agent for Manufacturers, is authorized to contract for Welsh Railroad Iron of the best quality, and deliverable at any port on favorable terms, also Spikes and Wrought Iron Chairs, made from the best iron, and of any pattern and weight. The new Wrought Iron Chair, with the introduction of a "Key," as per the annexed plan, will be found a great improvement on the old pattern.



Boiler Plates of superior quality, perfect regularity in the squaring and thickness, and made with great care.

Sample can be seen at: office, No. 20 Beaver st.  
CHARLES ILLIUS.

**LOWMOOR**

AND

**U. S. BEST FINCH IRON.  
To Iron Merchants.**

JOHN FINCH & SONS, Iron Merchants, Liverpool, now are, and for more than twenty years past have been, sole Agents for the LOWMOOR IRON COMPANY, for the United States and Canada, for the sale of their well known Railway Tire Bars, and Axles, Piston Rods, Boiler Plates, Angle, Rivet, and all other kinds of Lowmoor Iron: also, sole Agents for the sale of the superior St. Iffordshire Iron stamped "FINCH CROWN" and "U. S. BEST FINCH;" and Merchants and Wholesale Dealers in all other kinds of British Iron.

We hereby inform our friends and the public that we have this day appointed Mr. WM. BAILEY LANG, of Boston, as our only representative to receive orders and to transact our general business in the United States.

For JOHN FINCH & SONS,  
JOHN FINCH Sen.

Boston, April 11, 1851.

LOWMOOR and other Bent, Welded and Blocked RAILWAY TIRES, ready for use, E. FINCH'S Patent Dovetailed and other kinds of WROUGHT IRON RAILWAY WHEELS, with, or without the finished Axles, for Locomotives and for Passenger and Merchandise Cars, also Wrought Iron Railway Chairs, Railway Spikes, etc.

To the Managers of Railways, Engineers and others: Gentlemen:—We, FINCH & WILLEY, Engineers, Liverpool, Manufacturers of the above articles, respectfully inform you that we have this day appointed Mr. WM. BAILEY LANG, of Boston, as our sole Agent for the sale of said articles, and the transaction of our business in the United States of America, and for whom we solicit your kind attention and patronage.

For FINCH & WILLEY,  
JOHN FINCH, Sen.

Boston, April 11, 1851.

Having accepted the above Agencies, I beg leave to solicit your orders, which shall at all times receive my prompt and careful attention. Please address all communications either to MESSRS. JOHN FINCH & SONS or MESSRS. FINCH & WILLEY, Liverpool; or to me, at my Steel Warehouse, No. 9 Liberty Square, Boston. Yours very respectfully,

WM. BAILEY LANG.

Boston, April 11, 1851.

The following are testimonials of the quality of FINCH & WILLEY'S WROUGHT IRON RAILWAY WHEELS from the Yorkshire and Lancashire Railway Co., one of the largest in Great Britain, and from the London and North Western Railway Co., the largest Railway Company in the world.

LONDON AND NORTH WESTERN RAILWAY,  
(Northern Division.)

WAGON DEPARTMENT, ORDSALL LANE,  
Manchester, January 4, 1851.

Gentlemen:—I have very great pleasure in bearing my testimony to the excellent quality of your Wrought Iron Railway Wheels.

This Company have many of them now in use on their lines, and during my experience, as their Superintendent, which is now upwards of 9 years standing, I have not known any of them to fail during that time.

I am, Gentlemen, yours, truly,

OWEN OWENS.

MESSRS. FINCH & WILLEY,  
Windsor Foundry.

LANCASHIRE AND YORKSHIRE RAILWAY,  
Wagon Department, Jan. 3, 1851.

Messrs. Finch &amp; Willey,

Gentlemen: In reply to your request writing me to give my opinion of the 700 sets of Wrought Iron Wheels you furnished this company during the years 1847 and 1848, I have much pleasure in stating that we have not had a single instance of your Wheels failing in any respect, and I consider them equal if not superior to any Wheels we have on this line of railway. The Tires being LOWMOOR iron, 1 1/2 inch thick, I have no doubt they will run under ordinary goods' wagons 12 years without any repairs more than the tires turning up.

I am Gentlemen,

Yours, truly, WM. EMMETT.

NOTE.—4 Wheels and 2 Axles are one set, consequently this order contained 2400 WHEELS and 1400 AXLES; value over \$100,000.

**Railroad Iron.**

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the very best quality for special purposes, is respectfully invited.

COOPER & HEWITT,  
17 Burling Slip, New York.

February 15, 1850.

**Railroad Lanterns.**

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,  
No. 24 Commercial St. Boston.

August, 16, 1849.

6m33

**Railroad Iron.**

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron.

THOMAS B. SANDS & CO.,  
73 New street,  
New York.

February 3, 1849.

**Glendon Refined Iron.**

Round Iron, Band Iron, Hoop Iron,  
Square " Flat " Scroll "

Axles, Locomotive Tyres,

Manufactured at the Glendon Mills, East Boston, for sale by

GEORGE GARDNER & CO.,  
5 Liberty Square, Boston, Mass.

Sept. 15, 1849.

3m37

**ENGINEERS.****Atkinson, T. C.,**

Mining and Civil Engineer,  
Orange and Alexandria Railroad, Alexandria, Va.

**Clement, Wm. H.,**

Little Miami Railroad, Cincinnati, Ohio.

**Cozzens, W. H.,**

Engineer and Surveyor, St. Louis, Mo.

**Alfred W. Craven,**

Chief Engineer Croton Aqueduct, New York.

**Floyd-Jones, Charles,**

Alton and Sangamon Railroad, Alton, Illinois.

**Gay, Edward F.,**

Columbia and Philadelphia Railroad, Philadelphia Pa.

**Gilbert, Wm. B.,**

Rutland and Burlington Railroad, Rutland, Vt.

**Gzowski, Mr.,**

St. Lawrence & Atlantic Railroad, Montreal, Canada.

**Grant, James H.,**

Nashville and Chattanooga R. R., Nashville, Tenn.

**S. W. Hill,**

Mining Engineer and Surveyor, Eagle River,  
Lake Superior.

**Holcomb, F. P.**

Southwestern Railroad, Macon, Ga.

**Latrobe, B. H.,**

Baltimore and Ohio Railroad, Baltimore, Md.

**Miller, J. F.,**

Buffalo and Conhocton Valley Railroad, Bath, N. Y.

**Morris, Elwood,**

Schuylkill Navigation, Schuylkill Haven, Pa.

**Nott, Samuel,**

Lawrence and Manchester Railroad, Boston.

**Osborne, Richard B.,**

Civil Engineer, Philadelphia.



**Prichard, M. B.,**  
East Tennessee and Georgia R. R., Cleveland, Tenn.

**W. Milnor Roberts,**  
Bellefontaine and Indiana Railroad, Marion, Ohio.

**Roberts, Solomon W.,**  
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

**Sanford, C. O.,**  
South Side Railroad, Virginia.

**Schlatter, Charles L.,**  
Northern Railroad (Ogdensburg), Malone, N. Y.

**Steele, J. Dutton,**  
Pottstown, Pa.

**Trautwine, John C.,**  
Civil Engineer and Architect, Philadelphia.

**Tinkham, A. W.,**  
United States Fort, Bucksport, Me.

**Troost, Lewis,**  
Alabama and Tennessee Railroad, Selma, Ala.

**Whipple, S.,**  
Civil Engineer and Bridge Builder, Utica, N. Y.

### HOTELS.

**DAVIS'S  
ALHAMBRA HALL,**  
No. 136 Pratt street,  
BALTIMORE.

**Exchange Hotel,**  
Adjoining Eastern Railroad Depot,  
BUFFALO, N. Y.

BY.....**FISS & SPERRY,**  
Late of Delevan House, Albany.

**MANSION,**  
Corner of Maine and Exchange Streets,  
**P. DORSHIMER.** BUFFALO.

**Barnum's City Hotel,**  
MONUMENT SQUARE, BALTIMORE.  
This Extensive Establishment, erected expressly for a Hotel, with every regard to comfort and convenience, is situated in the centre and most fashionable part of the city, and but a few minutes' walk from the Railroad Depots and Steamboat Landings.  
The House has lately undergone a thorough repair, embracing many valuable improvements, and will accommodate 250 Guests. **BARNUM & CO.**

**American Hotel,**  
Pratt street, opposite the Railroad Depot,  
BALTIMORE.  
**HENRY M. SMITH.....Proprietor.**  
Late of the Exchange & St. Charles Hotels, Pittsburgh

**Washington Hotel,**  
BY **JOHN GILMAN,**  
\$1 Per Day.  
No. 206 Pratt street, (near the Depot,) BALTIMORE.

**GUY'S  
United States Hotel,**  
(Opposite Pratt street Railroad Depot,) BALTIMORE.

**JOHN GUY.** **WILLIAM GUY.**

**DUNLAP'S HOTEL,**  
On the European Plan,  
NO. 135 FULTON STREET,  
Between Broadway and Nassau St.,  
NEW YORK.

**JONES' HOTEL,**  
NO. 152 CHESTNUT STREET,  
PHILADELPHIA.  
**BRIDGES & West, . . . . . Proprietors.**

**Fountain Hotel,**  
LIGHT STREET, BALTIMORE,  
**P. THURSTON.....Proprietor.**

### BUSINESS CARDS.

**Walter R. Johnson,**  
CIVIL AND MINING ENGINEER AND ATTORNEY for Patents. Office and Laboratory, F St., opposite the Patent office, Washington, D. C.

**Lithography.**  
**JOHN P. HALL & CO.,**  
161 Main st., Buffalo, (Commercial Advertiser Build.)  
Are prepared to execute all kinds of Lithography in good style and at reasonable rates. Particular attention will be paid to Engraving Railroad Maps, Engineer's Plans and drafts, etc., and orders in this line are respectfully solicited.

**Cumberland, (Md.) Coals for Steaming, etc.**  
ORDERS RECEIVED FOR AND FILLED by  
**J. COWLES, 27 Wall St., N. Y.**

**J. & L. Tuckerman,**  
IRON COMMISSION MERCHANTS,  
AND MANUFACTURERS OF  
ULSTER BAR & POUGHKEEPSIE PIG IRON,  
69 WEST STREET,  
NEW YORK

**Henry I. Ibbotson,**  
IMPORTER of Sheffield and Birmingham Goods.  
Also, Agent for the Manufacture of Telegraph Wire.  
213 PEARL ST., NEW YORK.

**Charles T. Jackson, M. D.,**  
STATE ASSAYER, late Geologist to Maine, Rhode Island, New Hampshire, and the United States, offers his services to his friends and the public in making any Chemical, Mineralogical or Geological researches that may be required for the improvement of Agriculture and the Manufacturing Arts. Particular attention will be paid to the exploration of mines and to assaying of ores of the metals.  
State Assayer's office, 31 Somerset st.  
Boston Sept. 3, 1850.

**STEEL AND FILES.**  
**R. S. Stenton,**  
20 CLIFF STREET, NEW YORK,  
AGENT FOR  
**J. & RILEY CARR,**  
BAILEY-LANE WORKS, SHEFFIELD,  
Manufacturers of Cast, Shear, German, Blister, and  
**Spring Steel,**  
Of all descriptions, Warranted Good.  
**FILES.**  
Manufacturers of Machinists' Warranted Best Cast Steel Files, expressly for working upon Iron and Steel, made very heavy for recutting.  
A full Stock of Steel and Files at all times on hand. 6m4

**Dudley B. Fuller & Co.,**  
IRON COMMISSION MERCHANTS,  
No. 139 GREENWICH STREET,  
NEW YORK.

**Manning & Lee,**  
GENERAL COMMISSION MERCHANTS,  
NO. 51 EXCHANGE PLACE,  
BALTIMORE.  
Agents for Avalon Railroad Iron and Nail Works.  
Maryland Mining Company's Cumberland Coal 'CED'—'Potomac' and other good brands of Pig Iron.

**Samuel Kimber & Co.,**  
COMMISSION MERCHANTS  
WILLOW ST. WHARVES, PHILADELPHIA.  
AGENTS for the sale of Charcoal and Anthracite  
Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.  
July, 27, 1849.

**James Herron, Civil Engineer,**  
OF THE UNITED STATES NAVY YARD,  
PENSACOLA, FLORIDA,  
PATENTEE OF THE  
**HERRON RAILWAY TRACK.**  
Models of this Track, on the most improved plan may be seen at the Engineer's office of the New York and Erie Railroad,

### PLUSHES

**Railway Cars & Omnibuses.**  
**F. S. & S. A. MARTINE,**  
112 WILLIAM ST., NEAR JOHN.

ARE now receiving a large and complete assortment of Plain and Figured PLUSHES, of their own importation, which will be sold at the lowest market price, viz: Crimson, Maroon, Scarlet, Green, Blue, Purple, etc.  
ALSO—CURLLED HAIR, the best manufactured in market.

**To Railroad Companies,  
Machinists, Car Manufacturers, etc., etc.**

**CHARLES T. GILBERT,**  
NO. 80 BROAD ST., NEW YORK.  
IS prepared to contract for furnishing at manufacturer's prices—  
Railroad Iron,  
Locomotive Engines,  
Passenger and Freight Cars,  
Car Wheels and Axles,  
Chairs and Spikes.  
Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

**Manufacture of Patent Wire  
ROPE AND CABLES,**  
For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tilters, &c., by  
**JOHN A. ROEBLING, Civil Engineer,**  
TRENTON, N. J.

**FORGING.**  
**Ranstead, Dearborn & Co.,**  
MANUFACTURERS OF  
LOCOMOTIVE CRANKS AND CAR AXLES,  
ALSO  
WROUGHT IRON SHAFTING,  
And All Kinds of Hammered Shapes.  
Office 25 Foster's Wharf, Boston.

**Samuel D. Willmott,**  
MERCHANT, AND MANUFACTURER OF  
CAST STEEL WARRANTED SAWS,  
—AND FILES—  
IMPORTER OF THE  
GENUINE WICKESLY GRINDSTONES  
NO. 8 LIBERTY STREET,  
NEW YORK.

**Railroad Instruments.**  
**THEODOLITES, TRANSIT COMPASSES,**  
and Levels, with Fraunhofers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by  
**E. & G. W. BLUNT,**  
No. 179 Water St., cor. Burling Slip.  
New York, May 19, 1849.

**IRON.**  
**Iron.**  
Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chains of approved patterns for sale by  
**COLEMAN, KELTON & CABELL,**  
109 N. Water St., Philadelphia.

**Iron Store.**  
THE Subscribers, having the selling agency of the following named Rolling Mills, viz: Norristown, Rough and Ready, Kensington, Triadelphia, Pottsgrove and Thorndale, can supply Railroad Companies, Merchants and others, at the wholesale mill prices for bars of all sizes, sheets cut to order as large as 58 in. diameter; Railroad Iron, domestic and foreign; Locomotive tire welded to given size; Chairs and Spikes; Iron for shafting, locomotive and general machinery purposes; Cast, Shear, Blister and Spring Steel; Boiler rivets; Copper; Pig iron, etc., etc.  
**MORRIS, JONES & CO.,**  
Iron Merchants,  
Schuylkill 7th and Market Sts., Philadelphia.  
August 10, 1849.



**Bowling Iron. Stamped B.O.**

Railway Tire Bars  
Locomotive and other Axles  
Boiler Plates  
Rivet Iron  
Locomotive Frame do  
Bars,  
and every other description of this superior Iron.

The subscribers, agents for the sale of Bowling Iron, are prepared to execute orders for importation, especially for railway and machinery uses, with despatch from the manufacturers.

RAYMOND & FULLERTON, 45 Cliff st.

**Ibbotson, Brothers & Co's  
CELEBRATED CAST STEEL**

AND

Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shovel and Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

HENRY I. IBBOTSON, Agent,  
218 Pearl st., New York.

**Smith & Tyson,  
IRON COMMISSION MERCHANTS,  
BALTIMORE.**

**REFINED** Juniata Charcoal Billet Iron for Wire. Do. for Bridging, of great strength.

Flat Rock, Boiler and Flue Iron, rolled to pattern. Elba, Wheel Iron of great strength and superior chilling properties. Elba Forge Iron, American Shot Iron, Cut Nails, Spikes and Brads, Nail and Spike rods, Railroad Spikes of superior quality, Wrought Chair plates of any pattern, punched or plain.

**WILLIAM JESSOP & SONS'  
CELEBRATED CAST-STEEL**

The subscribers have on hand, and are constantly receiving from their manufactory,

**PARK WORKS, SHEFFIELD,**  
Double Refined Cast Steel—square, flat and octagon. Best warranted Cast Steel—square, flat and octagon. Best double and single Shear Steel—warranted. Machinery Steel—round. Best and 2d gy. Sheet Steel—for saws and other purposes.

German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.

Genuine "Sykes," L. Blister Steel.

Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by

WM. JESSOP & SONS,

91 John street, New York.

Also by their Agents—

Curtis & Hand, 47 Commerce street, Philadelphia.

Alex'r Fullerton & Co., 119 Milk street, Boston.

Stickney & Beatty, South Charles street, Baltimore.

May 6, 1848.

**Railroad Iron.**

B. O. Railway Tires, Railway Wheels,  
Scotch Pig Iron, Tin Plates and Banca Tin,  
Muntz Patent Metal Sheathing,  
Baltimore Copper.

Contracts for Rails made on behalf of the manufacturers, for delivery at any ports in the United States, at fixed prices.

Bowling Tires and Tire Bars and Scotch Pigs imported to order.

Muntz's Ship-sheathing, and a general stock of Tin Plates and Banca Tin in store, and for sale by

RAYMOND & FULLERTON, 45 Cliff st.

**IRONDALE PIG METAL, MANUFACTURED**

and for sale by the Bloomsburg Railroad Iron Co.

LINDLEY FISHER, Treasurer.

75 N. Water St., Philadelphia.

**Car Wheel Iron.**

THE celebrated cold blast "Conowingo" Pig Iron, for Railroad Wheels, Chilled Rails, etc., for sale by

E. PRATT & BROTHER,

Baltimore, Md.

**Railroad Iron.**

**3,000 TONS C. L. MAKE** 63½ lbs. per yard, now landing and to arrive.

Also contracts made for future delivery of above superior make English Iron.

300 Tons Banks Best Iron, Round, Square and Flat.  
200 " English Bar " " "

10 " 9-16 Square Iron for Railroad Spikes.

For sale in lots to suit purchasers by

DAVID W. WETMORE.

New York, March 26, 1850.

**Railroad Iron.**

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

**JOHNSON, CAMMELL & Co's  
Celebrated Cast Steel,**

AND

**ENGINEERING AND MACHINE FILES,** which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,  
100 William St., New York.

November 23 1849.

**Bowling Tire Bars.**

40 Best Flange Bars 5½x2 inches, 11 feet long.  
40 " " 5½x2 " 7 feet 8 in. long.  
40 " Flat " 6x2 " 11 feet long.  
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by

RAYMOND & FULLERTON,  
45 Cliff street.

**Wheel, Forge and Foundry  
Iron.**

**LOCUST GROVE** Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,  
5m9 62 Buchanan's Wharf, Baltimore.

**Railroad Iron.**

**1650 Tons**, weighing about 61 lbs. per yard, 40 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by

BOORMAN, JOHNSTON & CO.,  
119 Greenwich street.

New York, Aug. 26, 1850.

N.B.—B. J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the United States.

**Railroad Iron.**

THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.

COLLINS, VOSE & CO.,  
74 South St.

New York, June 1, 1850.

**Tredegear Iron Works.**

**ROLLING MILL FOUNDRY AND MACHINE**

**SHOPS.** The undersigned continues to manufacture at his Works in this city (from best charcoal metal) Bar Iron of every description, embracing—Rounds and Squares, from ½ to 5 inches diameter. Flats, from ½ to 7 inches, all thicknesses.

Bands and Scrolls, all sizes. Boiler plate and Plough Iron. Railroad and Locomotive Axles and Tires. Locomotive Frames, Spikes and Plates. Hoops, Ovals, Half Ovals, Half Rounds, Angle, T, L, and indeed every description of Iron usually manufactured, all of which he warrants to be equal to any made in this country. He also manufactures at his Foundry and Machine Shops all descriptions of Railroad Work, say, Locomotives, Railroad Wheels and Axles complete and ready for the road, Railroad Chairs, etc. Also, Marine and Stationary Engines all sizes, Sugar mills and Engines, Horse mills, and every kind of Machinery usually required for the operations of the country. He has paid particular attention to getting up machinery, etc., for Gold Mine operations, and those in want of such work might find it to their advantage to give him a call.

J. R. ANDERSON.

Richmond, Va., Sept. 10, 1850.

**CUT NAILS OF BEST QUALITY, BAR-IRON** (including Flat Rails) manufactured and for sale by

FISHER, MORGAN & CO.,

75 N. Water St., Philadelphia.

**Car Wheel Iron.**

**100 Tons** "Columbia" No. 2 Cold Blast Charcoal Iron.

**300 Tons** "Salisbury" No. 1, do. do.

For sale by CHARLES T. GILBERT,

No. 80 Broad st.

New York, Sept. 21, 1850.

**Railroad Spikes.**

THE subscribers are prepared to make and execute contracts for Railroad Spikes of a superior quality, manufactured by the New Jersey Iron Company, at Boonton.

DUDLEY B. FULLER & CO.,

139 Greenwich st. corner of Cedar.

**S. S. Keyser & Co.,  
IRON WAREHOUSE,**

Corner of South and Pratt Streets,  
BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electroplated Steel, etc., etc.

**Railroad Spikes, Boiler Rivets, etc.**

THE Subscribers, Agents for the sale of James S. Spencer's, Jr., Railroad and Boat Spikes, Boiler Rivets, and Wrought Iron Chairs for Railroads, made at his Works near this city, will execute all orders with promptness, despatch, and of the best quality.

ALSO IMPORTERS of English refined and Merchant bar Iron; Extra refined Car and Locomotive Axles (from 3½ to 6½ inches in diameter); B. O. Locomotive Tire (welded by Baldwin). Also, supply Boiler and Flue Iron cut to pattern or otherwise.—Spring, Shear, and Cast Steel, etc., etc., etc.

T. & E. GEORGE.

Philadelphia, November 14, 1850.

**Railroad Iron.**

THE Undersigned, Agents for Manufacturers, are prepared to contract for the delivery of English, Welsh and Scotch Rails, of any pattern and weight, also for every description of English, Welsh, Scotch, and Swedish Iron, Railway Chairs and Spikes, Rivets, Bolts, Nuts, Washers, Chain Cables, Anchors, Tin Plates, German Spelter, Iron Castings, and every description of Machinery.

WILLIAM BIRD & CO.,  
Iron and Tin Plate Merchants,  
44 Wall st., New York.

And at 5 Martin's Lane, City, London,  
and 140 Buchanan st. Glasgow.

July 27th, 1850.

**Railroad Spikes, Wrought  
Chairs and Fastenings.**

THE subscribers continue to manufacture, with increased facilities, Hook and Flat Head Railroad Spikes and Chairs. The points being FINISHED BY HAND, have a long taper, and sharp point, and are much superior to those made entirely by machinery.

We are also prepared to furnish Wrought Chairs, Clamps and Fastenings of every description, either punched or plain. The best quality of refined iron is used in the above articles, and our prices will be made as favorable as any in the country.

The patent Clinch Spike will be found an improvement to secure the rail at the joints.—They drive in the manner shown and are not liable to work loose.

All communications, addressed to the undersigned, will meet with prompt attention.

SMITH & TYSON,

No. 25 South Charles st., Baltimore Md.

**Railroad Iron.**

THE "Montour Iron Company" is prepared to execute orders for Rails of the usual patterns and weights, and of any required length not exceeding 30 feet per rail. Apply at the office of the Company,

No. 73 South 4th st., Philadelphia,

Or to the Agents,  
CHOUTEAU, MERLE & SANFORD,

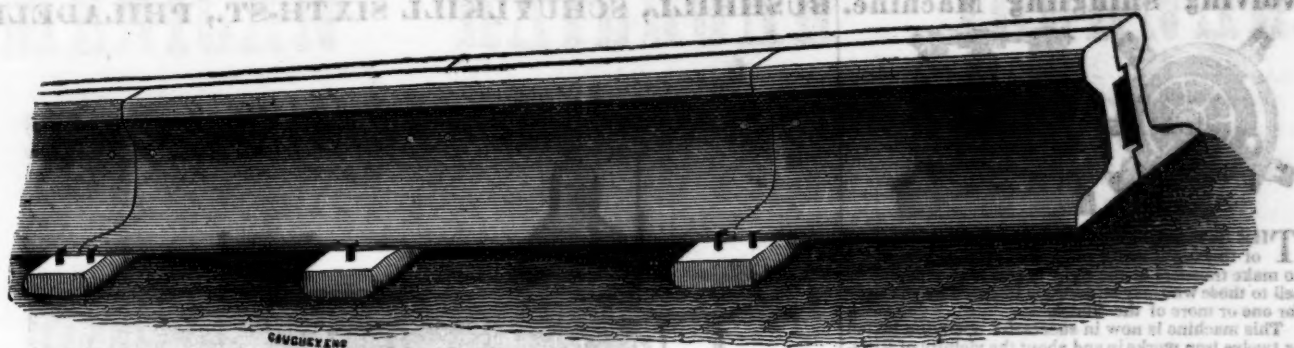
No. 51 New st., New York.

September, 1850.





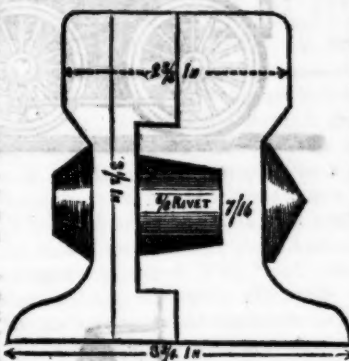
## PATENT COMPOUND RAIL.



**THE UNDERSIGNED NOW OFFER TO THE** Railroad Public a new Compound Railroad Bar, which possesses, as they believe, a decided superiority over every kind now in use. The Cuts annexed will give a good idea of the form of the Rail, and the mode of combination.

This Rail has now been in use on the New York and Erie and the Utica and Schenectady Railroads for nearly two years, and has proved itself to be a *durable and continuous* rail, realizing the advantages of a theoretically perfect rail, over the one in common use. We invite the attention of Railroad Companies to a careful examination of the merits of the form now offered.

The advantages of this Rail are: first, it effects a saving of from 25 to 50 per cent. in the wear and tear of the machinery; secondly, it saves to a vastly greater extent in the repairs of track; thirdly, it secures a much higher rate of speed with the same power; and what is of still



greater importance, it offers complete protection against most of the accidents to which companies are liable. For these reasons, it is believed to be not only the best, but the cheapest rail that can be used. In enumerating its advantages, the proprietors only repeat the statements of competent persons, who have had the best opportunities of judging of its merits.

This improved Rail is now being manufactured at the Works of the Mount Savage Iron Co. in Maryland. Any communications or enquiries addressed to either of the undersigned will receive prompt attention.

J. F. WINSLOW, President,  
Troy, N. Y.  
ERASTUS CORNING, Albany.  
WARREN DELANO, Jr., N. Y.  
JOHN M. FORBES, Boston.  
ENOCH PRATT, Baltimore.

April 8, 1851.

### Faggotted Car and Engine Axles

**FORGED** by RANSTEAD, DEARBORN & Co., Boston, Mass.

These Axles enjoy the highest reputation for excellence, and are all warranted.

**TO RAILROAD COMPANIES, CAR MANUFACTURERS, etc.**

**THE** Undersigned hereby gives public notice, that the Commissioner of Patents, pursuant to his decision in relation thereto, on the 8th day of October, 1850, issued to him a Patent for the sole right to manufacture, and exclusive use of the INDIA RUBBER CAR SPRING, on account of priority of invention of said Spring.

New York, Oct. 23, 1850.

### Iron Trade of Pennsylvania.

**DOCUMENTS** and Statistics relating to the Manufacture of Iron in the State of Pennsylvania—giving a history of the manufacture from its commencement to this date, illustrated by diagrams. Also tables giving the address and capacity of every establishment in the State. Prepared by direction of the late convention of the trade held in Philadelphia.

For sale by  
LINDSAY & BLACKISTON, Philadelphia.  
FIELDING LUCUS, Jr., Baltimore.  
HENRY G. NICHOLS, 79 Water st., N. Y.

It will be sent by mail to any order enclosing the money, and post paid.

### Ulster Iron.

**THE ULSTER IRON WORKS**, Saugerties, N. Y., continue in full operation. Orders for round, square, flat, band, hoop and scroll iron, will be received and promptly executed by

J. & L. TUCKERMAN,  
69 West St., New York.

### Railway Iron.

**THE** Subscribers will contract to deliver, in the course of the ensuing Spring and Summer, the best English Rails, made by a particular specification, and of any pattern required.

DAVIS, BROOKS & CO.,  
63 Broad st.

On hand for sale, English rails of 59 lbs. to the yard, made by particular specifications.

January 10, 1851.

### Railroad Iron.

**THE MOUNT SAVAGE IRON WORKS**, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President  
Troy, N. Y.  
ERASTUS CORNING, Albany  
WARREN DELANO, Jr., N. Y.  
JOHN M. FORBES, Boston.  
ENOCH PRATT, Baltimore, Md

November 6, 1849.

### Railroad Iron.

**THE SUBSCRIBERS ARE PREPARED TO** take orders for Railroad Iron to be made at their Phoenix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehanna river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.

REEVES, BUCK & CO.  
45 North Water St. Philadelphia;

March 15, 1849.

### LAP-WELDED WROUGHT IRON TUBES

FOR

**TUBULAR BOILERS,**  
FROM ONE AND A QUARTER TO SEVEN INCHES IN DIAMETER.

**THE ONLY** Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER & SON, Patentees,  
28 Platt street, New York.

### AMERICAN PIG IRON.

**"POUGHKEEPSIE"** brand, Dutchess Co., N. Y.  
"GLENDON" brand, Lehigh county, Pa.  
Orders for the above two well known brands will be received, and promptly executed, by

J. & L. TUCKERMAN,  
69 West St., New York.

### Spikes, Spikes, Spikes.

**ANY** person wishing a simple and effective Spike Machine, or a number of them, may be supplied by addressing J. W. FLACK, Troy, N. Y. or, MOORE HARDAWAY, Richmond, Va.

March 5, 1850.

### Railroad Iron.

**2000** Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by

COLLINS, VOSE & CO.,  
74 South St.  
New York, June 1, 1850.

### American Cast Steel.

**THE ADIRONDAC STEEL MANUFACTURING CO.** is now producing, from American iron, at their works at Jersey City, N. J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.

May 28, 1849.

**PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.**—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for rail roads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.

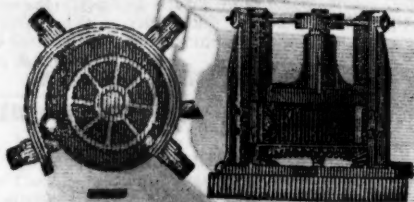
JOHN F. WINSLOW, Agent,  
Albany Iron and Nail Works, Troy, N. Y.  
The above Spikes may be had at factory prices, of Erastus Corning & Co. Albany; Meritt & Co., New York; E. Pratt & Co., Baltimore, Md.

### American Railroad Iron.

**1000** Tons, weighing 60 lbs. per yard, manufactured by Reeves, Abbott & Co., at the Safe Harbor Iron Works, and now lying in yard at Brooklyn, for sale by

CHOUTEAU, MERLE & SANFORD,  
No. 51 New street.



**MACHINERY.****Henry Burden's Patent Revolving Shingling Machine.**

THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phoenixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has given universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammerman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y.

P. A. BURDEN.

**Railroad Spikes and Wrought Iron Fastenings.**

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery for making Spikes, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, Agent,  
Troy Iron and Nail Factory, Troy, N. Y.

**CHILLED RAILROAD WHEELS.**—THE UNDERSIGNED are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,  
Willow St., below 13th,  
Philadelphia, Pa.

**Brown's Old Established SCALE WARE HOUSE,**  
NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others.

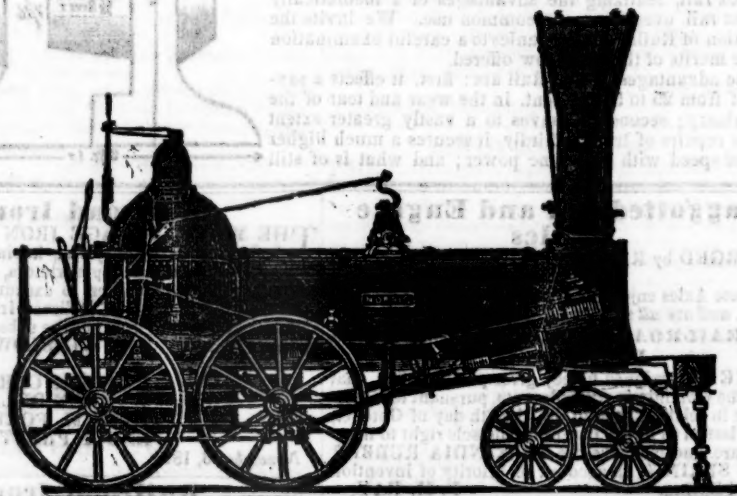
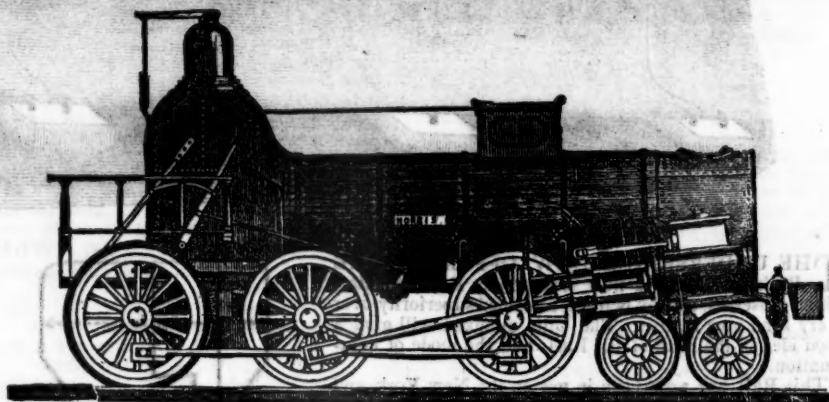
J. L. BROWN.

Bank Scales made to order, and all Scales of this make Warranted in every particular.

References given if required

**NORRIS' LOCOMOTIVE WORKS.**

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,



THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tyres are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

**PATENT MACHINE MADE HORSE-SHOES.**

The Troy Iron and Nail Factory have always on hand a general assortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest.

P. A. BURDEN, Agent,  
Troy Iron and Nail Factory, Troy, N. Y.

**Etna Safety Fuse.**

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

No. 85 Liberty St.  
NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1849.

ly

**UNION WORKS,**

North street, opposite the Railroad Depot,  
BALTIMORE.

**Poole & Hunt,**

Manufacturers of Steam Engines and Mill Gearing, Machinists' Tools, and all kinds of heavy and light Machinery.

Also put up Arrangements of Wrought Iron Pipes for heating buildings and conveying steam or water. Castings of every kind furnished at short notice.

Every exertion will be made to insure the satisfaction of customers.

**Patent Machine Picket Fence**

SIX DIFFERENT STYLES of this fence are now made by patent machinery; and is by far the most economical fence for Railroads, Farms, Yards, etc., ever yet offered to the public, costing only from 4 to 30 cents per foot, according to pattern; and is so put up as to be shipped at a trifling expense. Full particulars will be furnished, by addressing the subscriber, to whom all orders should be sent.

N. STRATTON, Troy, N. Y.